THE SUPERVISION OF INSTRUCTION

BY

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TO

THE TEACHING PROFESSION

EDITOR'S INTRODUCTION

THE following discussion and analysis of the elements of the supervisory process, and statement of the technique and professional standards for the supervision of instruction, will be read with interest by those who are concerned with the work of school supervision. The author of the volume is a school supervisor of experience, who has been unusually successful in training young people for the teaching service. Training novices for success in teaching is even more difficult work than that of a school principal or superintendent in initiating new or poorly experienced teachers into the work of a city-school system. Out of his experience he has worked out the following analytical discussion of the principles underlying classroom supervision, and the devices and technique which should, and which should not be employed.

The fundamental purpose of all school supervision is to increase the efficiency of the classroom teacher. School supervision is worthy of the name only when it results in such an increase. Supervisors who conceive their function to be that of an inspector, and who go about checking up work accomplished and locating those who do not follow directions, are worth little.

Such service is unintelligent service, and requires but little preparation or thought. To be constructively critical and helpful, though, requires a good understanding of both the purposes and the technique of supervision; and the fundamental principles and methods underlying such helpful and constructive service the author of the present volume has here set forth.

The treatise should be read with interest and profit by city-school supervisors and training-school directors generally, and should find a place for itself in training-school work.

ELLWOOD P. CUBBERLEY

March 31, 1920

PREFACE

THE rapid growth of training schools for the training of teachers, and the development of supervision of actual teaching in the public schools, has emphasized more and more every year the necessity for training supervisors specifically for the "job" of supervision. Moreover, skilled supervision on the part of the principals and superintendents is becoming a most important factor in their success. Training in supervision cannot be adequately accomplished until a definite body of psychological and pedagogical principles that apply specifically to the problems of supervision has been discovered and formulated. These principles must be discovered by experimentation, and by analysis of experiences that have been accumulated in supervising teachers in training and teachers in regular service. The writer undertook, about two years ago, to formulate some of the principles that seem valid on the basis of experimentation and extended experience. The results of this undertaking were set forth in *A Handbook for Supervisors of Student-Teachers.* This handbook, which is little more than an outline or brief, was published by the State Printer of Kansas and as a bulletin of the School of Education of the University. It was intended not only for the supervisors of the Oread Training School but also for supervisors, principals, and superintendents in the State, who might find it suggestive and helpful.

The kindly consideration that this booklet received and the many requests for supplementary discussion-material based on the outline led the writer to believe that a somewhat detailed formulation and discussion of the principles

set forth might prove helpful to those who are interested in the specific undertaking of training supervisors, and also be of direct service to those who are engaged in the actual work of supervision. The purpose, therefore, of this book is to set forth such a formulation of the problems and principles of supervision as may serve as a basis for classroom discussions, individual study, and experimentation. If the book proves serviceable in contributing material ready-to-hand for intensive study and discussion and in making fruitful suggestions, the writer feels that his efforts will not have been in vain.

The writer is indebted to the supervisors of the Oread Training School for critical discussions of the material and helpful suggestions. He is also greatly indebted to Dean F. J. Kelly, Professor R. E. Carter, and other colleagues for critical reading of the manuscript and helpful suggestions as to form and content.

H. W. Nutt

University of Kansas
January 15, 1920

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CHAPTER I

INTRODUCTION

1. The need for trained supervisors

Composition of the teaching force. A critical survey of the teaching body of the elementary and the secondary schools reveals one impressive, outstanding fact. This obvious fact is that the teaching force from year to year is a rapidly changing group. A little further careful study shows that the force is not only changing rapidly, but that it is to a great extent a body of workers with limited professional training. The significance of these two important facts is best seen by noting the make-up of the teaching corps of almost any city in the country.

Every city of any size finds itself each year with a number of new teachers in its ranks. These new teachers are of at least two, and very often three, types. The first type is the one that is usually thought of when one mentions a new teacher; namely, the teacher who is new to the profession, or who is just beginning to teach. The second type is the teacher who is new to the particular system of schools that one might be surveying. The third type of new teacher is the one who is new to teaching some particular grade or to teaching some particular subject or subjects to which he has been assigned. This third type may include teachers who are old to the profession and old to the system in which they

are employed. The fact that a considerable number of teachers in the force are new either to all or part of the teaching situations that must be met each year, gives rise to the need for setting up some agency that will most adequately direct the work of all the teachers in the system, so as to improve the efficiency of individuals and to harmonize the work of the entire body. The problem of harmonizing the work of experienced and inexperienced teachers, who are dealing with the same grades or lines of work in the system, requires quite as much attention to the old teachers as it does to the new.

This changing from year to year in personnel of the teaching force is not confined to the ranks of city and town teachers. It is also true of the county corps of teachers in the rural schools. In fact, if there is any difference, the country schools suffer most in this regard. Many teachers who are beginning to teach for the first time every year enter the rural schools. Then, too, many experienced rural teachers are new each year to the particular schools in which they teach. This fact increases the demand for more adequate supervision of the teaching forces of the rural schools, and is gradually bringing about an organization of counties into systems of units that are small enough to make adequate supervision possible. This type of organization gives the county superintendent a corps of supervisors similar to that which the city superintendent has who provides for assistant superintendents and supervising principals for the different wards in his system, and it surmounts one of the chief administrative difficulties that has so seriously handicapped the rural schools.

Lack of professional training. There is still another very important reason why supervision of teaching is an absolute necessity in order to improve the efficiency of the teaching forces. This is the fact that out of the large number of

teachers who enter the ranks each year a very great many are not professionally trained in any true sense of the word. Moreover, many of the older, experienced teachers who are already in the profession have not been sufficiently trained for their work. If, therefore, the great body of teachers, which is as yet so largely unprofessional, is to become more efficient from year to year, as it should, then certainly some supervising agency must be set up whereby teachers in service may be systematically trained in connection with the performance of their regular teaching duties. The main effort of this supervising agency should necessarily be expended on that part of the teaching force which is newest to the profession and which is least adequately trained professionally. The attention to the remainder of the teaching body should be simply that which is needed in order to harmonize the work of the entire group.

If an adequate supply of teachers could be sufficiently educated and thoroughly trained professionally before entering the ranks of the profession, then there would be little need for any provision for such thoroughgoing supervision as has been indicated by the above discussion. Under such ideal conditions, a good execution of the administrative functions that superintendents and principals should be performing would no doubt be all that would be necessary to develop and maintain any school organization at a high standard of efficiency. But such conditions do not exist and such ideal conditions cannot exist for years to come, if they can ever be secured, so that the necessity for training supervisors for the specific job of supervising the teaching activities of teachers, and especially beginning teachers, is at hand and must be met if genuine progress in professional efficiency is to be secured.

Need for professional supervision. The need for such supervision as has been referred to above has been realized

to a considerable extent by city superintendents, and they have made a fair beginning in providing for the supervision of teachers in the elementary schools. Rural schools in some States are also now beginning to attack this vital problem. The future should and will doubtless see a rapid development in provision for adequate supervision of elementary city, town, and rural schools. Meanwhile, practically no attention has been paid to the needs for supervision of teaching activities in the high schools. The rapid growth of high schools demands a large increase in the number of teachers every year. All that has been said in regard to the shifting, unprofessional character of the teaching body as a whole can be said truthfully with double emphasis in respect to the body of high-school teachers. Normal schools have been turning out a goodly number of elementary-school teachers yearly for a long time, and these teachers, compared to the rank and file, are fairly well trained professionally.

On the other hand, the attempt to train high-school teachers is of recent date, and the schools that are equipped to do the work are not nearly so numerous as the normal schools. The result is that only a very small part of the number of high-school teachers who begin teaching each year has been anything like professionally trained. The high schools are vastly worse off than the elementary schools, and in fact as bad if not worse off than the rural schools, when it comes to the professional efficiency of its teaching force. Therefore, all the arguments that have been advanced for the need for making adequate provision for the supervision of the teaching activities in the elementary city and rural schools hold most emphatically for the high school. The only way to escape the necessity of making provision for thoroughgoing supervision of high-school teachers is to provide enough agencies for training high-school teachers to supply an adequate number of trained

teachers to keep the ranks full. The day when that ideal condition will be reached is far in the future; hence to-day must take care of itself and even provide for the many to-morrows that must come before that ideal condition can be even approximated.

The training school and supervision. The discussion thus far has been directed to pointing out the conditions in public schools that make necessary the development of a comprehensive and thoroughgoing science of supervision of instruction, and the training of a body of supervisors who shall be competent to do this distinct service in education. If, as has been suggested above, an adequate supply of trained teachers could be provided so that no teacher would ever enter the ranks of active service until thoroughly competent to teach, independent of other than ordinary administrative guidance, then supervisors for public schools would be for the most part unnecessary; but the problem and the job of supervising teachers and training them during and through their actual teaching activities would merely be concentrated in the training schools organized and maintained for this specific purpose. The science of supervision would remain the same and the problems that the supervisor must solve would remain the same, for training schools must provide genuine teaching situations that are similar to those found in ordinary public schools. The training school is merely a setting-apart of a limited school population and facilities for the purpose of training teachers instead of taking the whole public school system for that purpose.

If the problem of training teachers could be adequately solved through the establishment of a sufficient number of training schools, then the problem of providing supervisors who are competent to take charge of the supply of beginning teachers and develop them into efficient teachers would be greatly simplified. There would still be the need, however,

for the development of the science of supervision, and the training of an adequate supply of supervisors for the training schools. This condition regarding a supply of trained teachers does not exist, hence beginning teachers must be trained in both the public schools and in the training schools. Therefore a large number of supervisors needs to be trained for this specific job of supervision in both of these fields. If agencies do not already exist that are adapted to accomplishing this work, then such agencies should be devised and put into operation as rapidly as it can possibly be done. The natural agencies for doing this line of training are evidently the teacher-training institutions. In these institutions, just as the teacher in training can see expert teaching demonstrated and also teach under expert guidance, so can the supervisor in training see expert supervision demonstrated and also supervise under expert guidance.

The newest function, then, that thoroughly established training schools and colleges should undertake to perform is that of training a supply of supervisors for the public schools and for training schools as well. In order to meet this growing demand for trained supervisors, the science of supervision must be developed and formulated so that the subject-matter of supervision may be studied in as definite and as thorough a fashion as the student of teaching studies the principles of method, devices, and technique. Then, just as the student-teacher is given ample opportunity to practice teaching under careful supervision, so must the student-supervisor be given ample opportunity to practice supervising under careful, competent supervision.

Administrators need supervisory training. The tendency to-day is to regard the chief function of school administrators as that of dealing with the subject-matter of instruction and the process of instruction. The clerical work, the financial details, and general business routine are taken over now

almost entirely by the business manager and clerical assistants. As these business matters are taken off of the superintendent or principal, he is expected to give more attention to improving the efficiency of instruction. The tendency is to bring about improvement by securing the best teachers available, and by improving the work of the weaker ones through supervision.

The fact, then, is perfectly obvious that since in many school systems the superintendent, assistant superintendent, supervising principal, and building principal, as the case may be, must undertake the task of supervising the teaching, the success of the administrator is being measured more and more to-day by the improvement he brings about in courses of instruction and in the efficiency with which the courses are taught. The more thoroughly the administrator is trained for the specific work of supervision, the more successful he will be in carrying on this work in connection with his other duties. The more successful he is in carrying on any phase of the supervising activities, the better able he will be to show the value of having the work of supervision thoroughly done. He can show not only the value of supervision, but also the impossibility of doing all that could and should be done, without adequate assistance. This assistance may be in the line of more clerical help that will enable him to devote more time to supervision, or it may be in the provision of supervisory help. In any case, the administrator who is trained for supervision has a great advantage over the one who is not so trained, and he has a wonderful opportunity to make such a contribution to the work of public education that it will not go unrecognized.

2. Is there danger of formalism?

The formality of technique. One criticism that has been made on the training school is that it tends to become too

formal in its organization and administration, due to the fact that it attempts to make the study of teaching intensive. The same criticism will no doubt be made against the proposition to train supervisors through intensive study and practice in training-school institutions. At first thought the organization of any school or class for the purpose of carrying out the training of supervisors according to the principles, devices, and technique set forth in the following discussions would seem to be a pretty formal sort of an organization. A careful examination of the whole situation, however, reveals the error of such a conclusion.

First of all one must set up a definition of formalism. The usual idea of formalism seems to be that it is carrying on a performance in keeping with some fixed rule or standard that exists in and for itself without respect to the particular situation in which the performance is carried on. For example, a teacher in the training school studies the art of questioning. While he is studying the art of questioning, he is concerned with the form of his questions, with the number of questions, with the speed of asking them, etc. He studies the performance of the expert teaching supervisor in asking questions and notes the form of the questions, number, etc. Then he goes out into the public schools and tries to follow the exact form of questioning that he saw used and perhaps used himself in the training school. Very often the results are very unsatisfactory, and the failure is blamed on the formal training that the teacher received in the training school. The criticism is that the training-school situation was made too formal in order to teach the student-teacher the art of questioning; hence, when the teacher gets out into a real school situation, where no one is concerned about the art of questioning for its own sake, he cannot use his training-school stuff and has to acquire real teaching experience through trial and error, main strength and awkwardness, etc.

Some even go so far as to say that the sooner the teacher forgets the formal stuff that he got in the training school, the better off he will be and the sooner he will get down to practical teaching activities.

Transforming technique into habits. There is truth in the statement that teachers go out from the training school and blindly follow the formulæ that were demonstrated in their training, and as a result fail in their teaching. The reason, however, that such teachers fail is not because they received formal training in the training institution, but because they did not continue their training long enough to become masters of the formulæ. The training-school teachers who demonstrated these formulæ would not have made the failures that the student-teachers made had they been placed in the same teaching situations that confronted these student-teachers when they went into the public schools. This is an important fact that the critics have overlooked, and it is the fact that gives the answer to the whole question.

Why would the expert training-school supervisor not have failed where the student-teacher failed? The reason is that the supervisor has mastered the principles of method, devices, technique, and management so thoroughly that they are to him merely the tools with which he works in the business of educating the pupils in his classes. He has passed through the necessary stages of habit formation, so that he is no longer engrossed with induction, deduction, art of questioning, etc., as aspects of teaching in and of themselves, but they come readily to mind in the most appropriate form in which they can be used to meet particular teaching situations. The expert supervisor is free to give his attention to analyzing the educational needs of the pupils and depends upon his habits to take care of themselves in enabling him to meet successfully these needs.

Why teachers fail in using technique. Why, then, does

the teacher fresh from the training school often fail? The reason is that he has not got beyond the stage of learning where he can ignore the art of questioning, induction, etc., as existences in and of themselves, and depend upon them as efficient habits. He must stop to decide whether the inductive or the deductive organization of subject-matter should be used. Moreover, when he has decided that induction, for example, should be used, then he becomes engrossed with getting the material into the inductive form and in so doing often loses sight of needs of the pupils. The result is that he gets his lesson presented in a formal inductive organization, but fails to accomplish the desired results. What this teacher needs is more and yet more of the study of the formal nature of the tools of teaching, and more and more practice in using them under the wise guidance of an expert, so that finally he ceases to be concerned with these tools in and of themselves. When this stage of formal, habit-forming training has been reached, the teacher will be able to forget his formal training and can trust it to take care of itself in the form of definite habits when he is engrossed with the vital needs of the pupils whom he is teaching. This kind of a formally trained teacher will not fail. The trouble is that teachers are turned out of the training school at the time when the most fruitful part of their training is just ready to begin. A whole year given entirely to teaching under expert supervision would be short enough time to accomplish satisfactory results.

Is there a formal stage in all training? The question that is now valid to raise is whether a teacher can ever under any conditions become a successful, efficient teacher without passing through this so-called formal phase of training. Must not all teachers form habits that enable them to use the tools of teaching effectively if they ever succeed as teachers? Can habits of teaching be formed more effec-

tively and more economically through accidental, haphazard experiences than through systematic study and training? Can the teacher study the tools of teaching better in the midst of the complexities of the actual teaching situations than he can study them when they are taken one at a time and thoroughly analyzed for his particular benefit until he has mastered all of them? Cannot the teacher bring just as much initiative and individual genius to the study of the tools of teaching when they are brought before him by an expert teacher of teaching as he can when these same problems are presented incidentally and accidentally in the course of his untutored teaching experiences?

The answers to all of these questions and to other questions of similar character that might well be asked are certainly obvious. No teacher can escape passing through the stages of habit formation that have been termed formal training, no matter whether the habits formed are good or bad. And certainly no one will argue that important habits can be formed more economically and more thoroughly by accidental, spontaneous means than they can be formed by thoroughgoing systematic study and practice. Such an argument, if valid, would settle the whole question most effectively, because, if people acted in keeping with it, there would be no schools and no teachers would be needed.

Training and attaining efficiency. One more question is valid in this connection, and that is as to whether a teacher who has been trained in this so-called formal way, although seeming to fail at first, will not become more efficient in time and in a much shorter time than will the teacher who enters the ranks without such training, taking for granted that all other things are equal in the two cases. The answer that is furnished by the testimony of competent school people is in favor of the training-school-teacher product. This fact, and the fact that teachers must under present conditions

leave the training school for active service before anything like such mastery of the tools of teaching as has been suggested above can be accomplished, make it all the more imperative that provision be made for adequate supervision of instruction in the public schools as well as in the training school. Such supervision will hasten the completion of the training of the training-school product, and also take care of the untrained forces that still crowd the ranks from year to year.

Meaning of the formal period. A final most vital point that should be noted is that it is not the fact that one is studying his teaching performance in a training school under the direction of an expert supervisor, or the fact that he is studying his teaching performance in a public school without the help of any one, that makes his training formal or otherwise, but it is the fact that one turns his whole attention to the study of the tools of teaching and makes, for the time being, their essential characteristics his whole concern. This taking time off from the job of teaching, in either case, in order to master the tools with which to do the job most efficiently is formal study and formal training. In each case the teacher studies the tools for their own sakes, and tries them out until he discovers how they work and why they work, then practice soon puts them in the realm of habit and the teacher is freed from the formalism of his training.

How does the training school compare, then, with the public school as to formality of organization? The answer is not far to seek. The training school is no more formal than the public school so far as the work of the pupils is concerned. The trained supervisor, while he affords opportunity for the student-teacher to study the tools of teaching systematically and thoroughly, at the same time keeps these tools adapted and adjusted to the teaching situations so that

just as practical and thorough results are secured as can be secured under any school conditions. In fact, the training school in the hands of highly efficient supervisors is less apt to suffer on account of formalism than is the public school whose teacher is passing through the formal stage of his development on his own initiative without guidance. The reason is that such a teacher will not always by any means keep the tools adapted and adjusted to the teaching situations while he is in the process of mastering them. Whether the teachers be trained in schools designated as training schools or in the regular public schools, the schools themselves can be saved from all the dangers of formalism by providing an adequate force of competent supervisors to carry on the training work.

Supervisors, too, must master technique. The training of supervisors demands that they, too, must master the tools of supervision. Then supervisors, like other teachers, must study the principles of method, devices, and technique of supervision for their own sakes until they have thoroughly mastered these tools and can trust them to take care of themselves in the form of efficient habits, leaving the supervisors free to give their whole attention to the needs of the supervising situations. This formal phase of training cannot be escaped on the part of the would-be supervisors, and candidates for this most important service in education should not stop their training until thorough mastery and high efficiency is reached. This training can be successfully completed in a well-equipped training school, or it may be begun there and finished in the public school by provision being made for training of supervisors while they are engaged in the active duties of supervision. That is to say, just as provision needs to be made for improving teachers in service, so provision needs to be made for the improvement of supervisors in service.

This need is all the more pressing because of the fact that just as training schools cannot as yet turn out an adequate supply of thoroughly trained teachers, so they can supply only a small part of efficiently trained supervisors that are needed. Some cities have already undertaken to do something in this direction through extension courses, professional lectures, and the study of educational literature. These means are helpful, but they are far from adequate to accomplish thoroughgoing results. Some agency must be set up whereby competent direction of the work of the supervisors is systematically carried on throughout the school year.

Formalism eliminated by mastery. The final suggestion that needs to be made in closing this part of the discussion is that formalism in the training of supervisors can be eliminated only by thoroughly mastering the principles which comprise the tools of supervision. Merely studying the subject-matter of supervision until one comprehends what the principles are will not suffice. The study must be continued until the principles become a coherent unity and form the basis of efficient habits intelligently practiced.

3. The problem of training supervisors

Two questions involved. The problem of training supervisors involves two fundamental and distinct questions: (1) What are the activities that supervisors in training schools and in public schools carry on in the performance of their duties? (2) What are the kinds of training that best prepare supervisors to perform these duties? The answer to the first question is obviously the starting-point in determining the answer to the second, for one must necessarily know what the job of supervision is before one can formulate a practical program of training that will prove adequate in preparing supervisors for the specific job of supervision.

A satisfactory answer to the second question means a pretty definite solution of the large problem of supervision.

The plan of this book. The organization of the material of this discussion is based upon the two questions just proposed.

Part I is devoted to the task of defining the job of supervision and to setting forth, in some detail, the activities that supervisors in training schools and in public schools carry on in pursuance of the purposes for which they have been employed in their respective fields.

Part II is given to the solution of the problem of training supervisors adequately so that they may perform, most efficiently, the activities set forth in Part I.

The material of Part II is divided into three sections, according to the fundamental aspects of the pedagogical problem involved — namely, method, device, and technique.

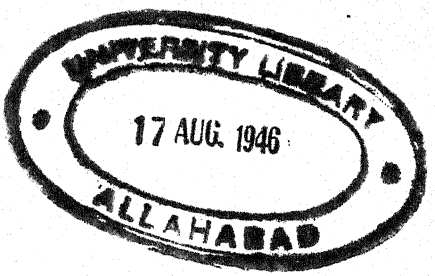
These three aspects of the problem are practically of equal importance, but considerable of emphasis has been given to the discussion of the principles of method, and especially to the first principle. This emphasis upon method seems, in the mind of the writer, to be justifiable on the basis of definite facts concerning supervision.

The greatest weakness of supervision. The first fact that justifies the emphasis placed upon method is the fact that the greatest weakness of supervision is its proneness to be largely a matter of devices and technique. Definite, recognized principles have been lacking. Such principles are the very foundation of the whole procedure in carrying on the work of supervision; hence it seems worth while to spend a considerable amount of time in an intensive study that will make possible a thorough mastery of the essential details. Supervisors and teachers in general have given little or no consideration to the facts set forth under principle one, and this is one of the principal reasons why the work

of supervision has been so inadequate and so unsatisfactory. The refinement of the supervising activities, and of the devices and technique employed in carrying on these activities, can be brought about only by setting up definite principles of method and then adhering to them strictly at all times.

Details *vs.* generalities. The amount of details that are given, not only in the section on method, but also in parts of the section devoted to the discussion of devices, seems justifiable on the basis of the general tendency to stop with generalities. The tendency to agree upon the generalizations and to take the details for granted is one of the rocks upon which a good many pedagogical crafts have been wrecked. Mental agreement upon a principle never appreciably affects the procedure of supervisors and teachers unless the details that are implied in the principle are set forth definitely, are mastered, and are kept clearly in mind at all times. For example, the reader may agree with the writer that the supervisor and the teachers who work under him should have common knowledge concerning the psychological characteristics of adolescents, but, if the writer had not set forth the details of the body of common knowledge that he had in mind, the reader would not know exactly what facts the writer thought ought to be so thoroughly mastered and held in mind that they would be readily recognized at any time that they appeared in the behavior of the pupils. Moreover, the reader would likely have followed the natural tendency to be satisfied with a vague idea of what these facts might be, and would not have taken the time and the energy to work out a set of details for himself and commit them to definite form. The more one commits himself to the details that embody a concept or idea of a principle, the more one refines his thinking in that particular connection, and the more he refines his behavior in getting control over the situation.

Chapter summary. The shifting, unprofessional character of the teaching body makes the provision for competent supervision of instruction not only desirable, but necessary. The danger of formalism in training of supervisors can be met by thorough mastery of the comprehensive body of principles that comprise the tools of supervision and adequate practice in their applications. The undertaking of training supervisors involves the setting-forth of the job or activities of supervision, and the organizing of the means by which supervisors can best be trained to perform their duties. The remainder of this discussion is devoted to this undertaking.



PART I

THE JOB OF SUPERVISION

CHAPTER II

SUPERVISING ACTIVITIES

THE activities that are carried on by the supervisor in a training school and the activities that are performed by the supervisory official in a public school are fundamentally the same. Some modifications in emphasis upon this or that activity may be necessary in the one field or in the other. Such modifications as seem important to note will be indicated and discussed in the light of their importance in each field. In general there seem to be at least eight forms of activity that are carried on to a greater or less degree in both fields.

Laying the basis for coöperative teaching. The supervisor should realize first of all that he makes his contribution to the education of the pupils who are being taught through the work of the teachers who teach under his direction. In order to make a valid, definite contribution to the education of the pupils, the supervisor must secure the hearty coöperation of the teachers in carrying out his ideas. On the other hand, the supervisor must coöperate most heartily with the teachers in the performance of their duties so that their individual efforts in carrying out his ideas will be most effective. In other words, both supervisor and teachers should feel that the teaching of the pupils is a mutual undertaking to which each must make his contribution in harmonious coöperation with the other.

The first objective, then, that the supervisor should strive to attain is the securing of the proper attitude of his teachers toward his work with them. He is responsible for working out and establishing the definite basis of mutual under-

standing regarding the duties that he is to perform and the duties that the teachers are to perform, so that on the basis of common knowledge and common purposes the teachers may enter into their work in a spirit of hearty support and coöperation. A detailed account of what the supervisor may do in laying a definite basis for coöperative teaching will be given under the discussion of the first principle of method in the first section of Part II.

Selecting and organizing the subject-matter of courses. The supervisor in a training school usually has a fairly free hand in shaping the courses under his charge to conform to what he thinks these courses ought to be. Even where quite definite courses of study are already mapped out by a state department of education, or by a department in the training institution, the supervisor still has the responsibility of adapting the work to the particular groups of pupils that are being taught. The supervisor has not only a great responsibility in solving the problem of selection and adaptation of subject-matter, but he has also a great opportunity. In order to make the most of this opportunity, the supervisor must know thoroughly the needs of the respective groups of pupils who are taught under his direction, and he must also know accurately and thoroughly the value of the various types and phases of subject-matter that may be employed in meeting the needs of the pupils.

The supervisor who works in a public school system very often has the entire responsibility of making up the course of study in the line or lines of work that he supervises. If, however, the course of study is already mapped out by the state department, or by the head of the system in which the supervisor works, then, as has just been suggested in reference to the supervisor in the training school, the supervisor still has the responsibility and the opportunity of adapting the subject-matter to the particular groups of pupils who

are being taught under his supervision. In any case, the supervisor must possess a thoroughgoing knowledge of the needs of the pupils and adequately comprehend the value of the kinds of subject-matter that may best minister to these needs. Moreover, the supervisor must know the limitations of the pupils' abilities to accomplish work within the time limits of the recitation periods that the school program makes possible.

This task of selecting and organizing subject-matter is a very vital one, and the supervisor who does not acquire a high degree of skill in carrying out this phase of his work will never become a thoroughly efficient and independent director of teaching activities. The attainment of a satisfactory degree of skill in this line of service demands industry, insight, and a vast amount of time and energy. The supervisor must become conversant with the literature that bears upon this problem and he must also become acquainted with the practices in modern schools in regard to problems of curriculum-making that are similar to those that he is called upon to solve. If he as a supervisor does not have the authority to make needed changes in the selection and arrangement of the subject-matter in the courses under his charge, he is at least responsible for undertaking to convince those who are in authority of the validity of the changes that he deems necessary to make. Therefore, the supervisor must not only have definite convictions concerning curriculum-making, but he must have skill in the technique of working out courses in great detail, and he must be able to produce evidences in support of his point of view in respect to the selection and the arrangement of subject-matter.

Teaching for purposes of experimentation and demonstration. The supervisor, whether he works in a training school or in a public school system, should be an expert

standing regarding the duties that he is to perform and the duties that the teachers are to perform, so that on the basis of common knowledge and common purposes the teachers may enter into their work in a spirit of hearty support and coöperation. A detailed account of what the supervisor may do in laying a definite basis for coöperative teaching will be given under the discussion of the first principle of method in the first section of Part II.

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Teaching for purposes of experimentation and demonstration. The supervisor, whether he works in a training school or in a public school system, should be an expert

teacher of the lines of work that he undertakes to supervise. One of the functions that the supervisor should perform is that of bringing about an improvement in the teaching process. In order to contribute to this end, he must not only be able to see the possibilities of making improvement through modifications in the procedure of teaching, but he must be able to set up experimental conditions and to carry out the actual experiment in a satisfactory manner. The supervisor must not only be able to tell others how to do an excellent job of teaching, but he should be able to demonstrate by actual performance the sort of teaching efficiency that he is striving to develop in those who are working under his direction. For example, if the supervisor believes that the teaching of spelling can be accomplished best by the project plan of procedure, then he should be able to set up the conditions and to carry on the teaching of spelling by that plan for a sufficient length of time fully to demonstrate the validity of the plan and to give the teachers a good exhibition of skillful teaching of spelling in the form of a project or projects, as the case might be. This means that the supervisor must plan to do more or less of teaching, and that he should keep in practice so he will not lose his skill and efficiency as a teacher.

The supervisor needs to teach, not only for the purpose of experimenting and of demonstrating, but also for the purpose of discovering the actual difficulties and possibilities that exist in the particular teaching situations with which he has to deal. He needs to carry on this activity to an extent sufficient to enable him to keep a true perspective of actual things that the pupils face in pursuing their studies, and the things that the teachers face in carrying out their duties. In no other way can the supervisor keep himself so well in a helpful attitude toward his teachers.

Directing systematic observation of expert and inexpert

teaching performances. This activity is carried on more extensively and more intensively in training schools than it is in public school systems. More or less of observation work, however, is carried on in many of the larger public school systems and much more of it could profitably be done. The people who do the observing are cadet teachers, supply teachers, and even regular teachers who have not had extended experience or who desire to improve their work. The observing that is ordinarily done in the public school is usually general and rather indefinite. The observers are left too much to their own devices and not trained systematically in observing definite phases of teaching performances. Teachers "visit" schools and carry away only very vague general impressions, or at most, perhaps, they copy a few devices that seem to be new and novel.

The supervisor in any case cannot direct the work of observation so that it will result in practical development and training of teachers unless he himself is a keen, accurate observer of teaching activities. In addition to this he must acquire skill in directing others in their study of teaching performances so that they too will acquire skill in observation. In order to accomplish this result, in training teachers to observe the supervisor must master two vital skills that have to be carried on at the same time. The supervisor must be able to see what is going on in the teaching performance, and he must at the same time know pretty definitely what is going on in the minds of the observers.

The observation, on the part of the supervisor, of the observation performance of the teachers is by far the most difficult of the two skills. The difficulties that are experienced by the observers in making a discriminating study of the teaching performance must be discovered and overcome by proper guidance and practice. A detailed analysis of this problem will be given in a later discussion.

Directing teaching activities. This may be of student-teachers, or of regular teachers in public schools. This is one of the most obvious of the duties that the supervisor must carry out. It is also the activity that makes the most searching test of his skill and efficiency. The primary idea in the work of supervision is that the supervisor is a director of the teaching activities of teachers. Therefore, he must seek to discover all the practical phases of the actual teaching performance that may be materially improved through adequate supervision, and then strive to acquire the highest degree of skill in directing these activities in such a way as to secure the best results.

Checking up pupil progress. Checking up the progress of the pupils who are being taught by the student-teacher, or by the regular teacher, and seeing that the work of the pupils is up to a satisfactory standard, is a fifth important form of activity of the supervisor. He is responsible to a large extent for the progress that the pupils make under the teaching that is done under his supervision. The supervisor should keep systematic records of the work of the pupils, and he should study both the pupils and the teachers as they work together, so that ultimately he may be able to estimate accurately the actual progress of both pupils and teachers. Protecting the welfare of the pupils is a large responsibility, and the supervisor must prepare himself to meet this duty in a highly satisfactory manner.

Measuring progress and efficiency of teacher. The measurement of the progress and efficiency of the student-teacher, or of the regular teacher who teaches under the direction of the supervisor, is one of the most difficult phases of the supervisor's work. He is in the best position of any person connected with the work of the teacher under his charge to measure intelligently and accurately the actual accomplishment of the teacher. The student-teacher must

depend upon the fairness, justness, and reliability of the supervisor's judgment in determining his grade, credit, and recommendation for a teaching position. The regular teacher in a public school system must depend upon the reliability and fairness of the supervisor's judgment for his grade in success, his recommendation for reëmployment, and his recommendation for promotion in rank and salary. This duty of the supervisor is one of the most far-reaching in its results; hence it is one of the most responsible activities that he must perform. Therefore the supervisor must study faithfully to master a set of practical standards that may be used validly in measuring the work of the teacher, and he must strive diligently to acquire skill in employing the standards.

Measuring the efficiency of supervision. The supervisor should make as careful a measure of his own work as he is able to do. This matter is just as important as the measuring of the work done by the teacher who works under his direction. The supervisor should be willing to submit his work to the same kind of objective measurements that he applies to measuring the work of the teacher. Therefore he should master practical standards for measuring his supervising activities, and he should seek to attain skill in applying these standards to his own case.

The goal of supervision, when the supervisor works in a training school, is the making of efficient teachers. When the supervisor works in a public school system it is to improve teachers in service and to secure efficient teaching results. The scope of activities performed by the supervisor should be the same in each case. The relation of these activities to the goal he is trying to attain is readily recognized. For example, the supervisor could not have much freedom in training teachers, or in directing them, if he could not have a considerable degree of control over the selection and

organization of the subject-matter of the courses supervised. The same thing is true in reference to the other activities. He cannot do a complete piece of work if any of the activities enumerated are omitted. The relation of each of these activities to the finished product of each of the two types of supervisory situations will become more and more apparent as the method, devices, and technique are worked out in definite detail.

The supervisory job of the administrator. The fact that the superintendent, assistant superintendent, supervising principal, and building principal, as has already been pointed out, will have to undertake in many school systems whatever is attempted in the way of supervision, makes clear at once the impossibility of any one of these officials carrying out so comprehensive a program of supervising activities as has been set forth above. The administrator, in such cases, must necessarily select those activities that are most important and possible in the particular situation. Then, by concentrating upon a few things, he will be able to make a material improvement in the work of his teachers. If the same teaching force is retained practically intact year after year, the administrator can work intensively upon different supervisory activities each year. This plan will accomplish much better results than can be secured by undertaking to carry on all of the activities each year, and by so doing give only a meager amount of time to each.

Another plan may be followed in systems where the teaching force remains relatively the same year after year. This plan is that of supervising closely the work of one group of teachers one year and that of another group the next, and so on around. For example, the work of the first three grades might be supervised one year, the intermediate grades the next year, and the junior high school the next. The plan would need to be modified according to the size of the school

systems. In a fairly large system each grade group of teachers might be as large a group as could well be worked with during a year. In smaller systems the teachers might very well be handled in two groups in successive years.

Another plan would be to divide the teachers into groups, as has just been suggested, and then work intensively a month with each group in succession throughout the year. There could also be grouping within the grade groups so that those who most needed the help of supervision would get the most. The best-trained teachers, for example, and those who had worked longest with the administrator, would likely need less of supervisory assistance than the others.

A still further plan would be that of undertaking the supervision of the teaching of certain subjects one year, and other subjects another year, and so on. For example, the teaching of geography and history might be given the greatest emphasis one year, reading and spelling another year, language and grammar another year, arithmetic and manual arts another year, and the other subjects another year. This plan might be combined with one of the above plans according to the size of the school system. For instance, in some systems the supervision of reading and spelling in just the primary grades might well be all that could be undertaken seriously during a year.

The administrator who is trained thoroughly for the job of supervision will be able to determine the best plan to follow in his particular situation and to initiate a constructive program of supervision that will extend over several years. He can then set forth his program to his school board and to his corps of teachers. By undertaking each year only that which can be reasonably accomplished, and by intensive, thorough work, he can demonstrate the value of the supervision undertaken and show genuine progress toward greater efficiency in the schools.

Chapter summary. The supervisor must carry out eight distinct pieces of work. He must lay the basis for effective coöperative teaching; select and organize the subject-matter of courses of study; teach for purposes of demonstration and experimentation; direct systematic observation; direct the teaching activities of his teachers; check up the progress made by the pupils; measure the efficiency and progress of his teachers; and measure the efficiency of his own supervising performances. The performance of these various pieces of work demands thorough training pointed specifically to these distinct activities.

CLASS EXERCISES

1. Make a list of points of contact between the supervisor and his teachers that demand coöperation.
2. Construct a set of suggestions that would help one in justifying his selection and organization of subject-matter in any subject.
3. Name five teaching possibilities or problems that supervisors might well experiment with in their teaching.
4. Estimate the amount of time that should be distributed to each of the eight supervising activities daily, weekly, monthly, yearly in an elementary school.
5. Estimate the amount that should be distributed to each of the eight supervising activities daily, weekly, monthly, yearly in a secondary school.

PART II

PRINCIPLES UNDERLYING THE SUPERVISION OF INSTRUCTION



SECTION A

SUPERVISORY METHOD

CHAPTER III

THE FIRST PRINCIPLE OF METHOD

Necessity for common knowledge. The first principle of method is that the supervisor and the teachers who work under his direction must possess common knowledge, and hold common points of view concerning the school situation in which they are working together.

The most important general aspects that are found in any school situation are suggested below.

I. The school as to its
 - A. Fundamental purpose
 - B. Place in the educational systems and
 - C. Curriculum

II. Pupils as to their
 - A. Dominant physiological characteristics
 - B. Psychological traits and characteristic tendencies; and
 - C. Social status and outlook

III. General principles of method of teaching; and

IV. Method of teaching the particular subject or subjects

V. General principles of devices

VI. General principles of technique

VII. Standards for judging the results of teaching

VIII. Relations that the teacher and supervisor are to bear to the pupils being taught, and to the administrator in matters of management

IX. Relations that should exist between supervisor and teacher; that is, the purpose and service that the supervisor is to accomplish

Teaching a coöperative enterprise. The validity of this first principle is grounded in the idea that teaching under

supervision is a coöperative enterprise; therefore each party to the undertaking must possess the means by which genuine coöperation may be accomplished. Teacher and supervisor must come to think in similar terms, and to talk the same language in the interchange of ideas. That is to say, they must see, think, and talk about the same points or problems. They cannot well do this if they do not start out together with a definite understanding of what they are seeking to do, and agree as to exactly how they will undertake to get it done.

If the student-teacher, or the regular teacher, is lacking in knowledge of fundamental facts and principles, he cannot understand the suggestions of the supervisor, and very often the criticisms will seem quite harsh and unjust. On the other hand, if the supervisor does not know what the teacher has in mind, he cannot have a sympathetic attitude toward the teaching performance. If the teacher holds one point of view and the supervisor holds one radically different, then very little beneficial results can come from the work of the supervisor. The teacher will teach in accordance with his point of view, and the supervisor will criticize the teaching from his point of view. The result will be unsympathetic, caustic criticisms on the one hand; and resentful, prejudiced antagonism on the other. Neither the teacher nor the supervisor should be groping around in the dark as to what the other has in mind at any time, and most of all they should never be working from different points of view or at cross-purposes. Therefore both teacher and supervisor should understand the full significance of this first principle, and they should seek assiduously to make its realization the foundation upon which their whole coöperative endeavor rests.

The validity of this principle and the necessity for getting it thoroughly established and fully realized will be brought out more clearly and forcibly by a somewhat de-

tailed discussion of the fundamental facts and points of view that may well be taken as the basis for coöperative teaching in an elementary school, and those that may be taken for the basis of coöperative teaching in a secondary school.

Chapter summary. The first principle in supervision is that the supervisor and the teacher must possess common knowledge concerning the school as an institution, the important characteristics of the pupils, general and special principles of method, principles of devices, principles of technique, standards for measuring the results of teaching, relation of teacher and supervisor to management, and the specific function of the supervisor. The supervisor is chiefly responsible for securing the realization of this principle in his work.

CLASS EXERCISES

1. Give two or more cases from experience in which the teacher and supervisor held antagonistic views concerning the purpose of the elementary school. State the effect upon their work.
2. Give three or more cases from experience in which the teacher and supervisor held opposite points of view concerning certain psychological traits of children. State the effect upon their work.
3. Give two or more examples from experience of the results upon the supervisor's work of not having clear distinctions in mind between general principles and special principles of method.
4. Give two illustrations of the results upon the work of the supervisor of not having a definite idea of his relation to problems of school management.
5. Give two or more illustrations of the results upon the work of the supervisor of having an autocratic idea concerning his relation to matters of management.
6. Give three cases from experience in which neither the supervisor nor the teacher had any clear-cut conception of the function of the supervisor. What were the results?
7. Give two cases from experience in which the supervisor regarded his work as that of an inspector, and assumed no responsibility for the improvement of his teachers. What were the results?
8. Give two cases from experience in which the supervisor regarded his work as setting tasks for teachers to perform. What were the results?

CHAPTER IV

PARTICULAR BASIS FOR CO-OPERATIVE TEACHING IN THE ELEMENTARY SCHOOL

1. The elementary school as an institution

The purpose of the elementary school. The purpose of the elementary school is to administer to the needs of childhood. These needs are intellectual, physical, moral, and social. The intellectual need is a thorough mastery of the fundamental tools of learning, and an accumulation of useful bodies of knowledge. The physical need is stimulation of normal, healthy growth of the body, safeguarding the vital sense organs against undue strain and development of defects, and the discovery and correction of physical defects. The moral need is a setting-up and maintaining of recognized standards of conduct and insistence upon obedience to rightful authority. The social need is an organization of group activities of every kind that belong in the life of the public school, that will afford opportunities for individual responsibilities and individual contributions to the activities carried on, and that at the same time unify the efforts of all in the final accomplishing of group purposes.

This conception of purpose, as stated in detail, will enable the teacher and the supervisor to point their efforts to specific educational problems in attempting to meet the needs of children. This conception will become clearer as one studies the characteristics of childhood that are set forth below. The importance, however, of stating and agreeing even tentatively upon the specific aspects of purpose is obvious.

The place of the elementary school. The place of the

elementary school, as has been indicated by the statement of purpose, is at the beginning of the scheme of systematic education. The elementary school is the school for children. The home is the school of infancy. The infant is helpless and requires parental care. Infancy gives way to childhood as the activities of the individual become more and more controlled and self-directed. Finally the individual reaches the stage of development where he can profit by systematic efforts and organized means of assisting him in acquiring experience and training. Children of four and five years of age are ready for a modification of the absolutely free, spontaneous life that they have been leading, and can profit by such systematic organized means as the kindergarten affords for the gradual change toward a well-ordered régime of conduct.

The kindergarten is the first stage of the elementary school. It should be adapted to administer to the detailed needs, already set forth, of children of ages four and five. The second stage of the elementary school is the primary. It is the stage in which the systematic mastery of the fundamental tools of learning is emphasized. Definite stages of mastery are marked out and their accomplishment seriously undertaken. In fact, the child is not expected to pass on to the next stage until the primary stages of mastering the elements of knowledge are satisfactorily completed. The third stage is the last division of the elementary school of the present time. That is to say, the general trend at least of educational reorganization is in the direction of a seven- or eight-year elementary school, beginning with a kindergarten of one or two years and ending with what is ordinarily considered the sixth year of the elementary school. This last stage, then, covers what are usually designated as the intermediate grades, or grades four, five, and six. This organization of the field of the elementary school is based

upon the psychological evidence, that childhood is giving way to adolescence, or the secondary period of human development, at about eleven years of age. The elementary school, therefore, should complete its training by the end of the present sixth grade; that is, by the time the child reaches twelve years of age and is passing rapidly into the adolescent stage of development. The secondary school, as will be shown later, should begin normally at this age.

Curriculum of the elementary school. The curriculum of the elementary school, as has been indicated by the statement of purpose and place, should include at least three important aspects of subject-matter. These types of subject-matter should be emphasized in the order in which they are enumerated, as follows: fundamental tools of learning, fundamental bodies of knowledge, and fundamental manual arts. The tools of learning are reading, arithmetic, writing, spelling, and language, which includes composition and grammar. The fundamental bodies of knowledge are American history, geography, history and current knowledge of trades and industries, agriculture, physiology, and hygiene. The fundamental manual arts are manual training and household economics or home-making. The selection of the subject-matter for each of these phases of elementary education should be determined by the mental characteristics and capabilities of childhood, and by the degree of mastery attained in each grade over the fundamental tools of learning. The subject-matter that is to be employed in giving the pupils mastery over these tools of learning should be very carefully selected and graded so as to give it a progressive development of complexity and difficulty. The subject-matter of the other two aspects of training should be selected according to the degree of mastery attained over the fundamental tools of learning, so that they can be employed to advantage in mastering the

fundamental bodies of knowledge and manual arts, and the subject-matter of these divisions should also be selected according to the mental characteristics and tendencies of childhood.

2. Pupils of the elementary school

Dominant physiological characteristics. The dominant physiological characteristics of childhood are as follows:

1. Rapid growth of the brain mass, which is practically full grown at ages nine and ten.
2. Rapid development of reflex motor coördinations.
3. Rapid development of voluntary motor coördinations.
4. Spontaneous motor reactions to stimuli.
5. Active sensory processes.
6. Sense organs easily strained and injured.
7. Relatively rapid changes in growth of the cartilaginous portions of the bones into osseous tissue, and corresponding tendency to derangement of articulations and normal bone formation due to excessive strain.
8. Susceptibility to colds, and to the so-called children's diseases.
9. Acute sensitiveness to pain, and to variations from normal temperature of atmosphere.

These physiological characteristics have a profound bearing upon the problems of length of school sessions, length of recitations, frequency and length of play intermissions, playground activities, lighting, heating, and ventilating of schoolrooms, seating, use of blackboards, intensive straining drills and exercises, measures of discipline, retardation in mental work, acceleration in mental work, and other problems of the more general management of the school.

Psychological characteristics. The dominant psychological characteristics of childhood are as follows:

1. Extreme suggestibility of the physiological and motor types.
2. Impulsive, spontaneous action before reflection can take place.
3. Shifting interests.

4. Certain instincts more strongly active than others. The most characteristic ones are:
 a. Imitation, particularly of unconscious type.
 b. Curiosity.
 c. Self-satisfaction or selfishness.
 d. Fear.
 e. Play, which manifests three types, namely, individualistic, coöperative, competitive.
 f. Gregariousness, or gang spirit.
 g. Fight.
 h. Approbation and friendliness.
 i. Jealousy.
5. Imagination of fanciful type very active. This is often mistaken for vicious, premeditated lying.
6. Credulity very great.
7. Volition vacillating and easily influenced.
8. Emotions easily excited, but impressions faint and fleeting.

Relation of these characteristics to schoolroom procedure. These psychological characteristics have a definite relation to the problems of length of recitations, selection of devices, general management, and selection and organization of subject-matter. Take imitation for example. The teacher and supervisor should utilize this instinct through the employment of devices that will not only stimulate unconscious imitation, but also provide for opportunities consciously to imitate correct performances. Moreover, they should be careful that, particularly in the moral field, the pupils shall have worthy models and standards to imitate. The example in conduct set by the teacher and supervisor, for instance, should be of the character that stimulates imitation, and that when imitated leads to wholesome results. Many opportunities arise in the teaching of the elementary-school subjects for utilizing imitation through proper devices, and through the technique of the teacher. The teacher and supervisor should not only have these psychological characteristics definitely in mind, but they should

also have a definite understanding as to the specific ways in which these various traits and tendencies can be utilized in teaching. The supervisor should work out a detailed list of such possible utilizations, according to the grade, and the subject-matter of the subjects being taught. This will give the teacher an opportunity to understand the supervisor's point of view and to work in agreement with it.

Social status of children. The children of the elementary school are dependents. They are not called upon by society to perform social activities of real vital significance. In fact, society tends to foster helplessness and dependency in childhood by providing everything for the children and giving them nothing to say about what shall be provided. The school affords an opportunity for stimulating personal responsibility and for giving individuals social problems to solve. The right of childhood to social recognition can be provided for in recitation work, on the playground, and in general group life of the school. Teacher and supervisor should agree upon the definite types of social situations that the particular school situation affords, and agree upon the provisions that should be made for according children wholesome kinds of social recognition.

Chapter summary. The particular basis for coöperative teaching in the elementary school involves: an agreement that the purpose of the elementary school is to equip pupils with the fundamental tools of learning; that the place of the elementary school is that of the first or childhood school, and that the curriculum should include the fundamental tools of learning, fundamental bodies of knowledge, and fundamental manual arts; an understanding of the important physiological and psychological characteristics of childhood, and the social status and outlook of children during this period. These principles must be applied to concrete individual cases in order to make them effective in dealing with children.

CLASS EXERCISES

1. Name at least five group activities that normally belong to elementary-school life, and indicate their essential characteristics.
2. What are some of the first lines of training that should be taken up systematically in the kindergarten?
3. Name at least five reflex motor coördinations that are developed fully in childhood.
4. Name five voluntary motor coördinations that are developed during the period of childhood.
5. Give in detail two illustrations of spontaneous motor reactions of children, that have come under your observation.
6. What proofs can you give that the child's sensory processes are very active?
7. Give at least two examples of injury to children's sense organs, that you have observed, that could have been avoided.
8. Give specific examples of malformations of bodily growth that have been due to improper school conditions.
9. Give two examples of childish conduct that were due to physiological suggestion.
10. Give two examples of childish conduct that were due to impulsiveness and lack of reflection.
11. Give three examples of how childish interests shift.
12. Give two examples of the use of unconscious imitation in school work. Give two examples of the use of conscious imitation.
13. What types of play are most emphasized in childhood? Give examples.
14. How can the gang spirit be capitalized to good advantage in the elementary school?
15. How can the instinct to fight be used to advantage in teaching the elementary-school subjects?
16. Give five examples of children's lies and explain the psychology involved.
17. Illustrate some of the ways in which teachers unintentionally play upon the credulity of children.
18. What is the chief problem presented to the teacher by the vacillating will of the child?

CHAPTER V

PARTICULAR BASIS FOR CO-OPERATIVE TEACHING IN THE SECONDARY SCHOOL

1. The secondary school

The purpose of the secondary school. The purpose of the secondary school is to administer to every phase of growth and development of adolescent boys and girls during their secondary period of existence. In other words, the secondary school is the chief agency for maturing adolescent human beings mentally, morally, and physically. The needs of these young people are determined primarily by the dominant mental traits and tendencies and the critical physiological changes which come during the secondary period of human life; and their needs are determined secondarily by the present and future demands made upon them by society as productive, reliable, useful citizens. Fortunately the good of the individual and the good of society are not antagonistic. Therefore, the best welfare of the individual and the best interests of society can be secured simultaneously by the proper selection, organization, administration, and teaching of subject-matter that meets the needs of adolescent boys and girls. That is to say, adolescent boys and girls can be brought up to fully developed and well-balanced maturity in such a way that they will live sane, productive lives, and at the same time under the same training they can be prepared to take on some form of specialized training in college, if they so choose, or to enter some useful occupation.

The purpose of the secondary school may be stated somewhat more definitely by comparing it with the purpose of

the elementary school and the purpose of the college or university. The purpose of the elementary school is to give children the fundamental tools of knowledge. The college or university is to give students a rather highly specialized training that will fit them to do certain specific things with a high degree of efficiency. The secondary school is to develop every physical, mental, and moral faculty of adolescents to such degree that they may find their greatest possibilities, and make an intelligent selection of their work for life. It is the laboratory in which the human material for future society's building is to be thoroughly tested, accurately selected, and to a considerable extent vocationally directed and trained.

The purpose stated negatively. The purpose of the secondary school may also be stated negatively, in order to get away from certain traditional conceptions on the one hand and certain modern conceptions on the other. The secondary school is not a preparatory school for colleges and universities. Graduates of the secondary school, however, should be able to take care of themselves in colleges and universities if they choose to enter these institutions. Again the secondary school is not a trade school. Graduates, however, should be able to enter certain trades and industries with little or no further special training. Finally the secondary school is not a place in which individuals are to follow haphazard, one-sided lines of study. Human life is complex and interests are manifold; hence the development of minor traits and tendencies is as necessary as the development of the most promising talents that individuals possess. The secondary school must seek to organize the growths and developments of the many aspects of human activities into definite, matured results; hence it must not be an opportunistic school. Natural interests and native capacities should, however, be given opportunity for de-

velopment along lines of least resistance. The secondary school, then, is no one of these types in particular, but it is all of them with equal emphasis.

The place of the secondary school. The place of the secondary school in the whole scheme of education is, as indicated by the statement of purpose, between the elementary school, on the one hand, and the college or university, or entrance into some vocation, on the other. It is the school for adolescents, and since the range in age for the adolescent period is approximately from eleven or twelve to twenty or twenty-one, it should cover a period of at least six years, and possibly seven or eight. This means that the secondary school should begin at the close of the six-year elementary school, and continue through a period that shall be long enough to bring those who graduate from its courses up to a desired degree of maturity and to prepare them for entrance into some higher school for special training, or to enter upon some useful vocation. Under present conditions a six-year period seems to be fairly adequate. As the elementary school succeeds more and more in equipping the pupils, who complete its curriculum, with the fundamental tools of learning and gives more and more thorough mastery over essential bodies of knowledge, and as the secondary school succeeds in bringing its pupils up through its courses without loss of time, the time will soon arrive when practically all of the graduates from the secondary school will have completed the required fifteen or sixteen units of credit before they have reached full mature development. This fact, and the fact that the first two years of college work are general in character and intended to help students find themselves in order that they may make a wise selection of some line of specialization, seem to point in the direction of an extension of the time spent in the secondary school to a period of seven or eight years, or, in other words, so that

the first two years of college work will be included in the curriculum of the secondary school.

Agreement upon this point of view is important, especially for the reason that it enables the teacher and supervisor to determine definitely the kind and degree of training that may reasonably be expected from the elementary school as a basis for taking up secondary-school subjects. It is also important in keeping constantly before the teacher and supervisor the various future possibilities of the pupils after they have reached mature years. This point of view broadens the perspective of those who undertake really to educate adolescent boys and girls, and helps to keep attention centered on the boys and girls themselves. If this point of view is clearly comprehended and strictly adhered to, then the efforts of both teacher and supervisor will be properly placed at all times. The secondary school will neither assume the rôle of the elementary school in its first years nor the place of the adult school in its upper years, but it will properly place its efforts in dealing with beginning adolescence, distinctive adolescence, and maturing adolescence.

The beginning stage of adolescence. This extends approximately from eleven to thirteen inclusive. The boys and girls during this period manifest many of the tendencies of full adolescence. The school must adjust its requirements in scholastic attainment to meet both of these phases of the pupil's nature. The traits of childhood should disappear under the training of the school, and the growing tendencies of the more fully developed adolescent individual must be recognized and utilized to the best advantage. These pupils must be given sympathetic consideration when they do absolutely childish things, and again they should be given courteous, respectful treatment when they try to act like older people. They will have their times of feeling very

wise and important. They should be consulted to a sufficient degree to make them feel the thrill of personal responsibility. On the other hand, they should not be given too full rein and not too much consideration for fear of spoiling the effect of proper social recognition.

The second period of adolescent development. This extends from about fourteen to seventeen inclusive. This is the period of deepest stress and strain. The individual is for the most part very little inclined to feel like a child, but is practically all the time seeing his relation to the world in terms of adult responsibility. The adolescent youth does exhibit very many childish points of view in meeting situations that arise, and is far from having the adult conception of most things, but the individual must be given much the same recognition that would be accorded an adult under similar circumstances. In other words, the adolescent at this period of development should never be treated as a child. This does not mean that he can or should be left entirely to his own devices, and allowed to make his own choices and decide all the issues that come up. Indeed, quite the contrary. The youth must be kept face to face with the fundamental problems. While he should be held responsible to do things, the teacher and supervisor are responsible to see that he is made responsible and also that he meets his responsibility. This seems like a paradox, and yet it is true that the youth must be made responsible for his conduct and at the same time he must be made to fulfill his responsibility.

The third stage of adolescence. This extends from eighteen on to twenty or twenty-one inclusive. This is the stage during which the responsibility can and should be shifted to considerable degree to the individual himself. The young man and woman at this period should begin to have definite ideas about their future work and training. They should

be given very large opportunities to seek advice and obtain definite information concerning the different electives and the things toward which they lead. Moreover, the subjects that are adapted to pupils of this stage of development should have tangible values that are readily recognized and worth while. One of the problems of secondary education is to define every subject in the whole curriculum in terms of definitely recognized values, but especially does this need to be done in regard to those subjects that are offered only to upper-class pupils, and the subjects that now constitute the preliminary college courses for the first two years. The school should begin, through giving opportunities for choice of subjects, to test the maturity of the pre-adult youth. Definite indications of maturity of purposes, maturity of thinking, and maturity of behaving should be manifested by this group of adolescents, and the school should show that it expects to find these evidences in its own product.

The curriculum. The two demands set forth above, that are insistent upon the secondary school, can be realized only by proper selection, organization, administration, and teaching of subject-matter. The selection of fields of subject-matter or subjects should be guided by at least four considerations; namely, the character and extent of the elementary-school training that may be reasonably pre-supposed as a foundation for secondary-school education, the character and extent of the special lines of training from which the students may choose upon entering college or university, the lines of industry and vocations upon which one may enter without making extended special preparation, and the dominant mental, moral, and physical traits and tendencies of adolescents at the three recognized levels of adolescent development.

This means that practically every phase of manual, literary, linguistic, scientific, and artistic training should be

found in the curriculum of the secondary school. The organization, administration, and teaching of the subject-matter within each subject should be determined almost wholly by the central purpose for which the human race has brought the subject-matter into existence, and by the dominant characteristics and tendencies of adolescence at whatever level of adolescent development the group studying the subject may be. Young people should ultimately come to an understanding and an appreciation of the conventional significance which attaches to all subject-matter. They should approach this conventional value, however, psychologically rather than historically or otherwise.

The psychological approach. The approach to the conventional significance of subject-matter must proceed from the point of view of the immature mind as the starting-point, and, through carefully graded steps of increasing difficulty and complexity, develop the thinking of the individual up to the mature or conventional point of view. This development of the maturing mind through the conventional significance of the subject-matter should come as a growth and development of the thinking of the individual, and no attempt should be made to force the adult point of view upon the adolescent mind. The psychological approach, then, means beginning with the interest that the immature individual has in the problem, and with the simpler, more fundamental aspects of it that fall within the range of adolescent experience. The problem is to extend this experience until the adult or conventional point of view is interesting and natural to assume.

The road over which the adolescent youth of to-day may travel to reach the mature appreciation of the value of things need not be the same road of actual sequence or experiences through which the race has passed. Modern conditions short-cut the route to many things. Many problems that

engrossed the attention of the race for years are now taken as a matter of course by the youth. Therefore the historical approach to many modern problems is tedious, and not only uninteresting, but even valueless. The principles involved in many problems are the same as those involved in the same types of problems of past decades, but the conditions under which these problems now arise are so vastly changed that the old or historical approach is not of interest or value. By psychological approach, then, is meant the most direct road over which the adolescent individual may grow from an immature appreciation of the values of subject-matter to a full understanding and appreciation of the values that are now conventionally accepted as of most worth.

The purpose of the studies. The curriculum of the secondary school must be regarded as a means to an end, and not the end itself. The study of any subject should contribute to the education of the student; that is, to the maturing of the student's mental habits. The study of French, for example, should result in the maturing of one's linguistic habits. French thus becomes the means of education, and not the end. If teacher and supervisor hold this point of view they will be more anxious about the maturing of definite linguistic habits than about the development of the subject. The matter of covering so many rules and principles in grammar, or of reading so many pages of literary material in the foreign language, will no longer be the guide and standard that impel the hurrying along in order that the traditional ground may be gone over. On the contrary, the question that will be uppermost all the time will be, What is the study of French doing to the linguistic habits of the student? The fact is that the future intelligence of the student will not be greatly affected by the failure to remember French vocabulary and grammatical rules, and that the student who acquires but little facility in the use of the

French language will, in a very large number of cases, make as much use in after life of the education that he received from the study of the language as the best student in the class will make of the education he receives from the study. The important question is whether or not each student acquired the fullest amount of mental development that was possible for him to receive from the study of the language. If this has been accomplished, then the teaching of French has resulted in the education of both types of students.

Thinking in terms of the student. The importance of holding to this point of view, not merely agreeing to it, cannot, in the writer's judgment, be too strongly emphasized. Teacher and supervisor are inclined to think in terms of the subject instead of in terms of the student. Subject-matter has been standardized instead of the stages of mental maturity of students. The teacher and supervisor have been dealing with the subject so long that it has become a familiar acquaintance; hence it has become more or less a sacred thing. The subject has become a habit with them; it is regarded as something permanent and abiding; hence to leave out any of the sacred facts seems almost sacrilegious and criminal. On the other hand, the student is transient. Students come and students go; hence to leave the student out is justifiable. In fact, leaving the student out may be getting rid of an unappreciative butcher who haggles and mangles the sacred subject most horribly in his attempts to find food for mental maturing. The relief that is usually manifested by teachers and supervisors when the student who is not "getting on" in the subject drops out is a definite indication that the subject is more important to them than is the student. Whenever teachers and supervisors begin talking about education by means of the subject "getting on" in the student instead of the student "getting

on" in the subject, then a radical change will come about in the teaching in secondary schools.

2. *The pupils of the secondary school*

Traits and tendencies. The points that require common agreement are those concerning the dominant physiological and psychological traits and tendencies of adolescent boys and girls and their social status and outlook. The teacher and supervisor must not only recognize the fundamental facts as to what these traits and tendencies are, but they must see the direct bearing that they have upon the educational activities of the secondary-school pupils. The significance of the three sets of facts for educational practice can best be realized by enumerating them in separate lists, and then discussing the most important bearings that they have upon the work of the teacher and supervisor.

Physiological traits. The most important physiological traits of adolescents are as follows:

1. Rapid functioning of higher brain centers.
2. Excess of energy and restless, excessive physical activities at times, and extreme sluggishness and averseness to any sort of physical effort at other times.
3. Alternate periods of slow bodily growth, which are attended, respectively, by relatively slow and rapid mental progress.
4. Completion of practically all of the coördinations that the individual will ever possess.
5. Extremely awkward, ungainly, and bungling general coördinations, but great facility for forming specific finer coördinations.
6. Enormous increase in the size of the heart and in blood pressure.
7. Profound organic changes due to the maturing of the sex organs.

Psychological characteristics. The significant psychological characteristics are as follows:

1. Mental, emotional, moral, and motor habit formation, relatively rapid and permanent.
2. Manifestation and relatively rapid development of many in-

stincts which take on new significance for the individual during this period. The most important of these are:

a. Self-assertion and individuality.
b. Social recognition and prestige.
c. Attraction toward the opposite sex.
d. Rivalry and emulation.
e. Spirit of romance and love of adventure.
f. Pugnacity and love of combat.
g. Acquisition of material possessions.
h. Leadership and followship.
i. Display and desire to attract attention, and their opposites.
j. Tendency to tease.
k. Play of the motor, intellectual, emotional, and volitional types.

3. General uncertainty of intellectual, emotional, and moral behavior, which is manifested by their:
 a. Uncertainty of choices of subjects and future vocations.
 b. Tendency to follow what seem to be the lines of least resistance.
 c. Rashness in deciding important matters upon very meager and insufficient data.
 d. Fickleness of purpose and vacillation of will power in the face of difficulties.
 e. Extreme stubbornness at times, and at other times unusual meekness.
 f. Tendency to be hysterical in critical situations, or to be exceedingly cool, indifferent, and self-contained.
 g. Tendency to be bold, to bluff, and to take long chances, or to evade, to prevaricate, conceal, and use soft solder.
 h. High susceptibility to suggestion and vivid power of imagination, which often leads them to make very erratic interpretations of the conduct and motives of others.
4. General mental alertness and interest in the dominant qualities of things.
5. Philosophical turn of mind and tendency to question the validity of practically every phase of fact and truth.
6. Dominant interest fluctuating between theory, principles, and abstract truths on the one hand, and actual experience and practice in mastering material things through the application of theories and principles on the other.
7. Religious attitude.

Social status and outlook. The important items concerning the social status and outlook of the pupils of the secondary school cover the following range of conditions:

1. Present social status economically.
 - *a.* Total dependency for food, clothing, shelter, and spending-money.
 - *b.* Partially self-supporting.
 - *c.* Self-supporting.
 - *d.* Self-supporting and contributing to the support of others.
2. Outlook for future economic social status.
 - *a.* Total dependency for indefinite period of time due to economic resources of parents.
 - *b.* Partially self-supporting at close of secondary school a necessity.
 - *c.* Wholly self-supporting at close of secondary education a necessity.
 - *d.* Self-supporting and contributing to the support of others at close of secondary education a necessity.
3. Present social activities make very few demands for use of scholastic attainments in particular subjects. These activities are such as:
 - *a.* Social functions; that is, parties, picnics, etc.
 - *b.* Church activities.
 - *c.* Civic enterprises.
 - *d.* Home life.
 - *e.* General affairs of school life, such as:
 - (1) Assemblies.
 - (2) Literary societies, clubs, etc.
 - (3) Athletics.
4. Future social activities, such as social functions, church activities, etc., make few specific demands upon scholastic attainments in particular subjects.
5. Future social activities of an economic and industrial nature demand specific scholastic attainments in particular subjects.

The vital question to raise at this point is what beneficial effect will the agreement of teacher and supervisor upon these various items concerning the physiological, psychological, and social characteristics of adolescent boys and

girls have upon the process of coöperative teaching? In other words, what bearing do these facts have upon the education of adolescents, so that by knowing these facts one may be able better to adapt his procedure in dealing with the teaching problems in the secondary school? The exact influence that each of the above-enumerated items has upon the intellectual, emotional, moral, and motor activities of adolescent individuals is not at all definite and accurately known, but their bearing in total is readily recognized and should not be ignored by those who undertake to direct the educational activities of youth.

Physical conditions and adolescent development. What, then, are the general effects of the combined physical conditions of the secondary period of development? One important effect is the general instability of the central nervous system, and another is the enormous burden placed upon the circulatory system. These two should be thought of together because they are so much affected by the same conditions. The nervous system is easily excited, and accelerated circulation of the blood accompanies this excitement. Even very simple situations may arouse such a condition of extreme nervousness and rapid circulation that the individual is for the time incapacitated to make a satisfactory normal reaction. The teacher may be ignorant of this fact, or he may be unobservant of the indications of the actual physical strain and confusion that the pupil is undergoing. The result is that he deals with the case in such a way that the strain and confusion are increased instead of being relieved. Stimuli are multiplied right at the time when they should be decreased, and the pupil is relentlessly pursued when he should be sympathetically led and guided. The ignorant teacher not infrequently imposes physical conditions, such as standing at the blackboard to do a piece of work, or standing before the class while grilling questions are asked in

rapid, confusing, third-degree fashion, when instead the pupil needs a few moments of calm repose in order to clear the disturbed neural pathways and restore circulation balance.

The supervisor may be as ignorant or as unobservant as the teacher. If this is the case, then no remedy will come through the advice and guidance of the one who should be expert in such matters. But if the teacher and the supervisor both know the significance of these physical tendencies, then the supervisor at least should be able to diagnose the situation correctly and the teacher will be able to appreciate his suggestions and to profit by them in dealing with similar cases in the future.

Adolescent embarrassments. Another effect is the embarrassment that young people feel during the periods of rapid bodily growth, and the tendency to extreme sluggishness of physical reactions. This effect should be considered along with the fact that many of the general coördinations are awkward and ungainly, while many of the finer coördinations may be quite facile and expert. The teacher often takes the slowness to action to be perverseness, and nags at the boy or girl to get a speed of response that is not natural. Again, the pupil's awkward, ungainly movements are taken to be indications of unwillingness to do what is asked. This is very apt to be the case when the youth undertakes to hide the embarrassment he feels because of his clumsiness by saying or doing something to turn attention away from his bungling performance.

Again, the pupil may do his very best to perform the task as directed, but the more he tries, and the more the teacher insists that he do better, the more confused he becomes and the more impossible it is for him to do the thing skillfully. The teacher often compares this bungling performance with some skilled performance of the same individual and con-

cludes that the pupil is simply showing off and trying to get out of doing the task right. He has failed, perhaps, to note that the two performances call for two totally different types of coördinations, and that skill in controlling one set of coördinations does not give skill in control of the other type. If the teacher had understood the situation he might have handled the matter in such a way that the boy would not have been embarrassed by his effort, and he would not have felt the need of trying to escape the discomfiture of being laughed at by doing something that would cause the other pupils to laugh with him.

Other physiological disturbances. The effect produced by the maturing of the sex organs is subtle and yet observable. The mental blankness that often occurs is largely due to the sudden deep-seated organic disturbances that throw the whole organism in upon itself. The whole being gropes for understanding of its own mystery, and the organism struggles to readjust its forces. The result is that for the moment the outside world is shut out, and, when the individual turns attention once more to external stimuli, mental connections must be reëstablished before the gap of blankness disappears. Again, the individual often suffers so intensely from organic shock that life holds little of interest for the time being. As a result the individual seems morose, distracted, depressed, and unable to do anything with satisfaction.

Summarizing briefly the bearing that physiological tendencies of adolescence should have upon educational procedure, one may rightfully say that the teacher and supervisor should regard these physical conditions as the barometer which indicates the varying kinds of pressure that affect the atmosphere of the classroom. Readjustments should be made in the light of the barometric readings, so that difficulties may be lessened and damages reduced to the minimum.

Adolescence and habit formation. How can the teacher and supervisor capitalize their knowledge of the fundamental facts concerning the psychological characteristics of adolescents? The first great fact that can and should be capitalized is that adolescence is the supreme period of habit formation. Habits of thinking, habits of knowing, habits of feeling, habits of willing, habits of acting are all being formed at a relatively rapid rate and tend to become permanent. This fact should help those who undertake to educate youth to keep the development of the individual constantly before them as the goal of all their endeavors. The question that should be asked about any body of subject-matter is, What habits will it contribute to and how may it be made to contribute to them most effectively? The teacher should view his own performance in the light of how effectively it contributes to the process of habit formation in the pupil. In other words, this fact held in mind should give the teacher a proper perspective of the purpose of the secondary school, and enable him to see the secondary educational life of the adolescent youth as a constant struggle between conflicting habit-formation tendencies.

Instinctive backgrounds. The knowledge concerning the dominant instincts that manifest themselves during this period should enable the teacher to discover the motives that pupils have for doing many of the things that they do with no plausible explanation of why they do them. These instincts may also be made the basis for consciously motivating the work of the pupils, although the pupils themselves may not recognize the fact that their instincts are being appealed to. The appeal to instincts must be subtle, and must seemingly be natural interest in some concrete object or goal. The understanding of instincts also helps the teacher in classifying pupils according to the degree to which certain instincts are dominant. For example, one

type of pupil desires to be in the limelight of public notice; another desires to escape public attention; one type craves adventure, while another is satisfied with commonplace affairs, etc. Tact is largely the knack of intuitively recognizing these instinctively prompted groups and of dealing with them so as to capitalize the instincts in the form of motivation. Most of all, however, the understanding of these instincts enables the teacher to appreciate the conflicting impulses and instinctive desires that struggle for expression in the behavior of the adolescent youth.

The habit of analyzing conduct to discover its instinctive background will go far toward making the teacher broad-minded enough to be sympathetic, charitable, and impersonal in his dealings with his pupils. The great impatience that older people in general feel with regard to the foolish behavior of youth must give way to an abiding patience that is based upon faith in the outcome of rational education, and which keeps one on the alert to discover, in the midst of what seems to be chaos, a definitely forming body of conduct which ultimately becomes the character of the adult. The teacher and the supervisor who do not have this faith, who do not possess this patience, and who do not find in the instinctive reactions of adolescent boys and girls the most absorbing opportunities for understanding human life, are out of place in the secondary school.

Mental maturing through experiences. How can a knowledge of the facts concerning the general uncertainty of intellectual, emotional, and moral behavior be of value to teacher and supervisor in carrying on coöperative teaching? On first consideration one is inclined to think that the very nature of the facts seems to preclude the possibility of formulating any definite plans for procedure in dealing with the adolescent pupils. If, however, one keeps in mind the purpose of secondary education, a knowledge of these facts

enables one to formulate some very definite rules for guidance.

A careful analysis of the causes of these uncertain, erratic forms of behavior discloses the fact that they are due to three fundamental causes; namely, disturbed physical conditions that have already been described, conflicting impulses and tendencies as has just been pointed out, and lack of experience or lack of data upon which to base judgments. The last cause gives the key to the whole problem. Give the immature individual experiences that will bring about maturity of his various physical, mental, and moral traits and he will acquire stable physical conditions and definite, dependable instinctive tendencies; and, finally, the acquisition of experiences with the resulting mental maturing will lay a foundation for rational, reliable choices of conduct. The pupil must be brought back from his erratic wanderings to things that do not change with his change of purpose or point of view. While subject-matter should not become sacred, it should be stable and organically dependable. While the development of the subject is not the prime object, the subject should not be made to correspond to the erratic mind-wanderings of the immature pupil. After all, it is not how many rules and principles or how many pages, etc., that the pupil studies, but the coming-back to the consideration of the thing that remains organized that finally brings about order in the behavior of the individual. Stability of purpose on the part of the teacher in dealing with subject-matter, and patience of endeavor in keeping the pupil face to face with definite problems that are reasonable and possible for him to solve if he sticks to the task, must be among the safeguards of secondary education.

In other words, the school must be stable enough to present the opportunities for rational behavior on the part of the pupil; then, when the pupil has his moments of normal,

instinctive promptings and his moments of rational choosing of conduct, he will be in harmony with the program and efforts of the school. On the other hand, the school must be flexible enough that, when the pupil wavers into erratic forms of behavior, he can come back to the stable path again without undue stress and strain over the errors, and without too much emphasis being placed on the atoning for the mistakes. Many times it is better to ignore the errors entirely and start with a clean slate, so as to catch at its fullest swing the impulse to go right and let it carry the individual as far on the right road as possible. Neither the fulfillment of the letter of the law nor the license of total disregard of law should be contended for in secondary education. This is especially true in matters of discipline, but it is also a valid point in regard to behavior in response to subject-matter.

Erratic behavior; rules of procedure. Another way of stating the rule of procedure is that the school should be stable in its organization, reasonable in its requirements, but steadfast in having its requirements reasonably met, patient in its offering of opportunities, waiting for the erratic behavior of youth to wear itself out by futile endeavor, then starting on again as though the error had not occurred. The result of such procedure is that the youth stays longer and longer on the steady track each time he comes back and gets the right kind of a new start, until finally he can be trusted to hold himself to recognized standards or rational behavior.

Pupil to choose freely. Another rule that is sound is that when the pupil chooses an erratic form of behavior, let him choose it freely, but make him fully responsible for the results of his choice of conduct. The youngster who, through a stubborn impulse, has set himself to resist some requirement and suddenly finds that his stubbornness has nothing to combat, but that his failure to meet the requirement will

mean a certain loss of some recognizable value, concludes that he was foolish and hasty in his decision. He expected a fuss over his action, and he has defeated himself and is glad to get back in line. In other words, the individual gets an overdose of his own medicine. Another way to put the point is that the pupil is made responsible for his own choice, while at the same time he is made to realize what the fruits of a stable form of behavior would be. He realizes that the choice of action is freely his, but the fruits of a stable form of action are out of his control. Moreover, he must bear the blame of his own loss.

Door of opportunity not closed. Another rule is that the school must not be vindictive in dealing with the erratic behavior of youth, and it must not treat the erring individual with suspicion when he is given a new opportunity. The school must be candid and frank in its attitude toward the erratic individual. And a still further rule that is closely related to these two is that the door of opportunity should never be closed to any individual as long as the individual makes a sincere, reasonable effort to make use of the opportunity when it is offered. On the other hand, a rule that is just as important is that unappreciated opportunities should not be forced on the individual. This does not mean that individuals must never be held to doing things that are irksome and uninteresting, but it means that the individual should be made to realize some degree of appreciation of the value of the opportunity, even though the appreciation has to be in the negative form. For example, the pupil may have a negative appreciation of the opportunity to do a piece of work because he realizes what his loss or discomfiture will be if he does not avail himself of the opportunity.

Teacher not to worry. Another rule is that the teacher should not become worried over the erratic interpretations of his behavior toward the pupil. He must be broad-

minded enough to go more than halfway to set the pupil on the right track. Again, he must calmly ignore the erratic impression and treat the pupil just the same as if the pupil made the right interpretation instead of a grossly erratic one. In other words, the teacher must not be unduly sensitive to the criticisms that pupils make of his conduct toward them. He must be willing, however, to dispel their false impressions by showing them that he did not mean to give them any such impressions. He must be willing to take part of the responsibility for the error and in this way get the personal influence that will broaden the pupil's point of view. The teacher must not strive unduly to vindicate his own position, but rather to give the pupil the benefit of the doubt. This attitude will usually lead the pupil to question his own interpretation of the situation and to doubt the reliability of his judgment. This attitude on the part of the pupil soon leads to the formation of the habit of considering such situations from different angles before forming and expressing definite conclusions.

Adolescent boys and girls are living through the most highly suggestible period of their whole lives. They are bound to make errors of conduct, and to do very many annoying things. Many if not largely all their actions are prompted by suggestions. Usually these suggestions are immediate, spontaneous, and impelling. The action follows so closely upon the suggestion that reflection is not possible. One of the problems of secondary education is to replace this spontaneous behavior with controlled behavior that is based upon meditation. The one important fact that stands out during the development of the individual from a condition of spontaneous behavior ruled by suggestion to a condition of habitual reflective behavior, is that the motives of the adolescent are usually not malicious. The fact that the actions are due to suggestion and not to

premeditation should lead one to seek for the suggestions that may have led to the conduct, instead of charging the individual with vicious intent. This point of view does not condone irrational behavior, but it does help the teacher and supervisor to keep a proper perspective and to analyze the situations accurately. To hold the pupil responsible for his erratic behavior is right, but to charge him with vicious motives and premeditated mischief, when he has only yielded to impulse, is wrong.

Teacher and supervisor in agreement. There is perhaps no point in the whole list of items upon which teacher and supervisor should possess common knowledge, and hold common points of view, that is of more importance than this. The development of stable habits of behavior cannot be brought about by divided counsels and opposite attitudes. If the teacher regards the act of the pupil as an outrage and a disgrace that should be severely dealt with because of the meanness of the offense, and the supervisor sees only a typical expression of a spontaneous, instinctive impulse, then the teacher is likely to think the supervisor is upholding and excusing the pupil.

On the other hand, the supervisor is apt to think that the teacher is pettish, narrow-minded, and needs discipline quite as much as the pupil. Teacher and supervisor should coöperate so that the pupil gets the impression that they both have the same attitude toward him. This is practically impossible unless both teacher and supervisor hold the same point of view concerning the suggestibility of adolescent boys and girls. Both should hold to the idea that a careful analysis will account for the causes of errors in conduct just as truly as an intelligent analysis will reveal the causes of errors in solving problems, translating language, or any other sort of mental performance.

Importance of frank dealings. What influence on the

teacher's procedure in dealing with adolescent boys and girls should the fact have, that these young people are beginning to philosophize and to question the validity of things? One very important effect should be that the teacher will be very careful not to get caught up on the things in which he can and should be accurate and reliable. Moreover, if he should happen to get caught, unprepared to give accurate information, he should be honest and not attempt to bluff the matter through in order to avoid the appearance of being ignorant. Pupils will respect the teacher if he says frankly that he is not prepared to give the correct answer, and that since it can be found out definitely there is no call for guessing about it. He can volunteer to look the matter up, or ask some one else to do it, with the understanding that the results of the investigator are to be accepted and verified. If, however, the teacher is continually confessing to ignorance on matters about which he should be informed and about which he could be informed through study and consistent preparation, then pupils will soon lose confidence in his reliability.

The teacher who attempts to play upon the credulity of adolescent young people will soon come to grief. Moreover, the teacher must have a great deal of patience with the skepticism of youth, and not always try to convince the pupil that he is right, or to be too much concerned about disproving the fallacious philosophy of youth. Respect the pupil's point of view, and he tends to become more tolerant of the point of view of others.

Adolescence and the religious instinct. Another aspect of this philosophical attitude of youth is the religious tendency of adolescence. The youth is greatly impressed by the mysterious readjustments that are taking place within his own being, and by the dawning consciousness of the great mysteries of life in all its manifestations. The senti-

ments, the overwhelming emotions that well up within the youth in the presence of those things which symbolize the mystery and power of God, and those intangible promptings of the soul which surge through his whole being when in the presence of those things which symbolize his social relations and obligations to his group, rule his conduct.

The teacher who sneers at these lofty emotional reactions of youth can never hope to make a lasting impression upon the real character that is being built. The teacher who cannot sympathize with the consuming emotional responses of youth should not be permitted to hold a responsible position in a secondary school. One who would lead youth must capitalize the surging emotional forces by expressing some sentiment, patriotic or religious, that will become the watchword to loyal and moral forms of conduct. The more objectively these sentiments can be expressed or symbolized, the stronger the appeal they will make to the emotional natures of adolescent youth. The teacher who is cold, worldly-wise, and *blasé* in respect to those situations which afford the opportunity for using the religious tendencies of youth to advantage in building character should have no place in the secondary school.

Catching interests at the crest. The fact that the dominant interests of adolescents fluctuate between the mastery of theory and the application of theories to practical activities should be of great value to teacher and supervisor in adapting the subject-matter of courses to the groups studying them. Each interest caught at its crest will greatly facilitate the mastery of the subject and promote the development of the individuals. All courses in the secondary school have tended to become too theoretical. Bodies of principles and facts are organized with little provision for the using of the principles and facts in the solving of practical problems that enable one to get on in the world. The

result is that the secondary pupils get fed up on theory until they rebel. The rebellion is not always open, but usually takes the form of neglected preparation of lessons, inattention in class, and other equally annoying manifestations of disinterest. Even manual-training courses have been known to consist very largely of the study of principles of construction, use and care of tools, uses of different kinds of materials, etc., with very little opportunity to make useful objects the making of which would involve the use of the materials studied, the use of tools, and the application of the principles of construction.

Such sciences as physics, chemistry, botany, etc., have been almost wholly concerned with the study and demonstration of principles. Even the laboratory work in these sciences has been theoretical rather than the application of principles to the solution of useful problems. When the courses in history, language, and English are considered, the case is even more damaging. These courses are stuffed with facts and theories, while the opportunities for applying the facts and theories to interesting problems and situations are very meager. In other words, the general theory and practice of secondary education has been that of stuffing the pupils as full of facts and theories as possible. The application of these facts and principles is left to be worked out by the individual after he leaves school. Facts and principles must necessarily be the core of any subject that is taught, but ample provision must be made for the using of the facts and principles in the actual doing of things. The facilities of the school are limited for giving the pupils opportunities to apply the facts and principles learned to problems outside of school or to similar problems in school, but the most should be made of the facilities that the school does have at its command.

Keep the pupil in the center of the stage. The facts con-

cerning the range of conditions existing in the social status and outlook of the secondary-school pupils should enable the teacher and supervisor to keep the pupil in the center of the stage, instead of making the subject the center of attention. The pupil, who is partially or wholly self-supporting during his period of secondary education, is entitled to considerations that the pupil who does nothing toward his own support does not need to have accorded him. The educational effect of the outside school work may be equally as great as the mental maturing that results from the study of subject-matter included in school courses. Such a pupil may miss recitations at times without serious loss to the net results of his education, although he may not cover all of the subject-matter prescribed in a course. The main point to keep in mind is what the study of the subject can contribute to the different individuals according to the future social demands that will be made upon them, as well as the present conditions under which they are working.

School should provide social opportunities. Another phase of this problem is that of giving these adolescent boys and girls social opportunities in the school. They are contributing very little in the main to the activities of the larger public social group. They must necessarily feel that they are dependents. They desire social independence and individual recognition. The school should give them opportunities for making individual and group contributions to the general life of the classroom and to the life of the school at large. Social responsibilities and personal obligations must come to the adolescent youth through proper associations with his fellows who are on the same social footing as himself. Every recitation is a social situation.

Sometimes people talk about the socialized recitation as if a new device had been discovered in teaching. Their discussion seems to indicate that recitations are usually not

social unless some extraordinary technique of procedure is followed. The fact is that recitations cannot be anything else than social situations, but the opportunities that individuals have for contributing to the occasion may vary greatly according to the technique of procedure that is followed in directing the performance. The one vital point that must not be overlooked is that the school must recognize the equality of the social status of its pupils, and opportunity must be accorded to each pupil without being influenced by the economic conditions that may figure in the social status of families in the larger social whole. In other words, the spirit of the school must be truly democratic, and the attitude of the teacher and the supervisor toward the pupils must be genuinely democratic.

Socializing subject-matter. The present social status of the pupils of the secondary school and their future outlook make clear that one of the vital problems is to give as great opportunity as possible to adolescents to become acquainted with the social conditions of the present time. One of the most fundamental ways in which this can be done is by introducing such subjects as economics, commercial geography, commercial law, sociology, and political economy into the secondary-school curriculum. Another very important and far-reaching means, however, is to socialize the subject-matter of all courses in the curriculum to a much greater degree. This can be done by bringing into each subject its social usefulness and adaptations.

Take mathematics, for example. It has its scientific side as a coherent scheme of principles, and also its social side in various commercial transactions and industrial activities. Dry measure as a scheme for counting is scientific in character, but when the scheme is used in such a transaction as a farmer makes in marketing his potato crop, the situation is a social one which makes use of the counting scheme as a con-

venience. Take English, for another example. When the pupil studies the rules of grammar and rhetoric, he is dealing with a science, but when he stands before an audience to read a paper upon some topic of interest, he faces a social situation.

The important problem psychologically is that of determining when to center the attention of the pupil upon the mastery of the science, and when to direct his attention wholly to the mastery of the social situations in which the science may prove serviceable. Whether the scientific facts should be alternated with social facts, or whether the scientific facts should be largely mastered before taking up the social facts, or whether the scientific facts and the social facts should be presented simultaneously in the same subject-matter is the vital problem and one that cannot be answered conclusively without careful and thoroughgoing experimentation. The chief danger that should be avoided is that of thinking the pupil is learning the social facts because they happen to be present in the subject-matter, when he may be entirely engrossed with mastering the scientific facts. For example, the pupil in arithmetic may be so concerned about getting the right relations between the quantities involved in the problems, and in carrying on the right operations to reach a correct numerical result, that he gives no thought at all to the social factors.

Make the social situations accurate and true. The most important aspect of the problem of socializing the various subjects of the curriculum is that of making the social situations that are created in the school as accurate and true to actual social conditions as is possible. The social situations may be used as practice material, or opportunities for mastering the scientific rules and principles through use, but they should do more than that. They should develop an understanding and mastery of actual social behavior. The

different subjects should thus give the pupil an appreciation of actual social obligations, and an insight into his own social obligations. In addition to this, such socialization of experiences, along with the study of the social sciences, should give the pupil an outlook and definite point of view concerning the obligations of society as a whole and the interrelated duties and obligations of groups within the larger social group. The whole vital problem may be summed up by saying that the secondary school should seek in every way to give its constituency a potential social status that will be practically certain to function in the future activities in which these young people engage. In other words, while they are largely dependent socially, make them potentially independent.

Chapter summary. The particular basis for coöperative teaching in the secondary school involves: agreement that the secondary school is the school for adolescents; that its place is to cover the gap between the elementary school and the college; that its curriculum should be extensive in range of subjects; an understanding of the important physiological and psychological characteristics of adolescents, and their social status and outlook. Specific application of these principles must be made to concrete cases in order to render the knowledge of them effective in dealing with adolescents.

CLASS EXERCISES

1. Give an illustration from any high-school subject of the difference between the psychological and the historical approach to subject-matter.
2. Give three examples of slow bodily growth attended by rapid mental development, and three in which rapid bodily growth was attended by slow mental growth.
3. Name some of the finer coördinations that adolescents form with facility.
4. Name some of the general coördinations that adolescents do not form readily.

5. Give two specific cases of conduct that were due to the instinct for social recognition and prestige.
6. How may the instinct of attraction toward the opposite sex prove troublesome to the teacher? How may it be capitalized to bring about good results instead of trouble?
7. How may the spirit of rivalry and emulation be used to advantage in school work?
8. What types of play should be emphasized during the adolescent period?
9. Give three cases of conduct that manifested fickleness of purpose in adolescents.
10. Give two cases of the same individual in which stubbornness was manifested in an extreme degree in the one case, and unusual meekness in the other.
11. Give examples of hysterical reactions in both adolescent boys and girls.
12. Give example of unreasonable emotional explosions in the conduct of adolescents.
13. Give three examples of erratic interpretations of the conduct of the teacher that adolescents have made, due to suggestion.
14. Does the present secondary-school curriculum adequately provide for the fluctuation of interest between theory and study of principles and practice or doing things? What changes in the curriculum should be made to meet this psychological fact?
15. What problems for the teacher and supervisor arise on account of the fact that some of the secondary-school pupils must make part or all of their living?
16. Give an example in which letting a pupil choose an erratic form of behavior freely resulted in a realization on the part of the pupil of his own responsibility.
17. Give an example of a case in which the teacher dealt with the pupil in a vindictive spirit.

CHAPTER VI

GENERAL BASIS FOR CO-OPERATIVE TEACHING IN EITHER ELEMENTARY OR SECONDARY SCHOOL

Other necessary common ground. So far the consideration of facts and principles upon which common agreement is essential for successful coöperative teaching has dealt only with those that help to give a proper perspective of the human materials that are involved in elementary and in secondary education, and the attitude that should be constantly assumed by those who undertake to mould these human materials through a rational procedure in elementary and in secondary education. The next facts and principles pertain to the active processes of bringing the child mind and the adolescent mind and the subject-matter of particular subjects together in the recitation. When teacher and supervisor face the task of assigning and teaching lessons, they need to have in mind the same fundamental facts concerning the definition of method, the principles underlying method, the problems of teaching growing out of an understanding of method, the principles and problems underlying devices, and the principles and problems involved in deciding upon the technique that should be practiced. The supervisor cannot make definite, pointed, clear-cut suggestions, and the teacher cannot appreciate such suggestions when they are made, unless both have in mind the clear distinctions that should be made between these various phases of the whole performance of teaching. A detailed treatment of these distinctions is hardly in point in this discussion, but a rather brief statement of the point of view that might well be taken as the ground of common agreement between teacher and supervisor for guidance, in either ele-

mentary or secondary teaching, will be given to make clear the types of pedagogical material that are involved and to emphasize the argument.

The principles of method. Method is the characteristic mental procedure of the mind of the learner in attending to any object that is brought before it for consideration. This characteristic mental procedure is as follows: The mind first sees the object as a vague whole; it then analyzes the object, noting its prominent characteristics; it discovers some dominant characteristic, and reorganizes the object around this dominant characteristic; this same form of analysis and reorganization takes place whenever this object, or one similar to it, is present before the mind, until it becomes the habitual form of reaction of the mind to such an object. This procedure of the mind in learning is always the same, no matter what the type of object may be that is presented for consideration.

The principles of method are the psychological laws governing the mental processes that are active during the mental movement of analysis and synthesis. Analysis and synthesis involve sense perception, imagination, memory, judgment-forming, and reasoning. One is dealing with a principle of method when trying to determine the way in which sense perception should be employed in the analysis of a particular type of object. Again, it is a principle of method that is involved in discovering the type of memorization that is most effective in making a synthesis of particular material that has been analyzed, etc.

Problems in teaching and method. Problems of teaching that grow out of an understanding of method and its principles are numerous. A few typical ones may be mentioned. One of the most important is the problem of deciding whether the subject-matter in a particular course should be organized predominantly in the form of inductive problems,

or predominantly in the form of deductive problems, in order to facilitate the pupil's acts of analysis and synthesis in learning the subject. The interrelation between the inductive and deductive organization of subject-matter in any course is also of vital importance. These organizations are never isolated or independent of each other, but always coexist in varying degrees of emphasis which makes the one or the other most obvious. Another one is the problem of organizing the subject-matter of the whole subject so that the pupil will readily get a fundamental comprehension of it as a whole at the outset, and then be able to analyze it into its large divisions and important subdivisions as the study of the subject progresses. Still another problem is that of determining the types and extent of subject-matter wholes that should be taken as the units for memorizing. And still another problem is that of determining the degree to which the different mental processes of sense perception, imagination, etc., should be employed in mastering the various divisions and subdivisions of the subject.

Devices and their use. A device is a means that may be used to bring objects before the mind of the learner. Questions are a device. Pictures are a device. Devices are both intellectual and material. They are innumerable. Devices should not be confused with method, or with principles and problems of teaching that are based on method and its principles. One of the vital problems of teaching is to select devices that are valid for the teaching of a particular subject in a particular school situation. This is a problem in which teacher and supervisor will be greatly helped by coming to a common agreement, based on the principles underlying the selection of devices.

These principles are as follows:

1. Devices should be economical as to time consumed in preparation and in actual employment relative to the results secured by their use.

2. Devices in general should be of such a character as to appeal to at least seventy-five per cent of the class.
3. Devices should be varied enough to appeal to the entire class individually.
4. Devices should be of such a character as to be readily accessible when needed.
5. Devices are not good in and of themselves. They must be adapted to meet specific situations. What is good at one time may be actually bad at another.
6. Devices must be of such a character that they do not attract attention to themselves.

The teacher must not be absorbed in the manipulation of devices, and they must not become a task for the pupil. History outlines and science notebooks are cases in point. These devices very often become the chief task of the pupils instead of being welcome aids. Having agreed to these principles, the chief problem for teacher and supervisor is to agree upon the extent to which such devices as blackboard outlines, notebooks, graphs, maps, lectures, questions, etc., should be used in teaching the particular course or courses. When ineffective results are secured the criticisms should be based upon these principles.

Teaching technique. Technique is the body of actual performances or the various activities put forth by the teacher in conducting the recitation. The asking of questions to develop a point is a device, but the number of questions asked, the speed with which they are asked, the form of the questions, the attitude of the teacher manifested in asking the questions, etc., are points of technique. The technique of the teacher is perhaps the one phase of the teacher's training that can be most effectively developed through supervision; hence the vital importance of teacher and supervisor having a definite understanding of the definition of technique, and of the principles underlying the development of a rational body of teaching acts or skill.

The determination of technique should be guided by the following principles:

1. The acts of the teacher should be natural.
2. The acts of the teacher should be as inconspicuous as possible.
3. The acts of the teacher should occupy as little time of the recitation as possible.
4. The teacher should set a good example in all those things that are asked or required of the pupil.
5. The acts of the teacher should be premeditated, as a rule.
6. The acts of the teacher should be adapted to the environment of the school, the nature of the subject-matter, the dominant characteristics of the pupils being taught, and the purpose for which the lesson is being taught.
7. What is good technique at one time may be bad at another time, and *vice versa*.
8. The nature of devices must determine to considerable extent the technique that should be employed in using them.
9. The skill in the technique practiced determines almost wholly the effectiveness of the devices used, and furthers or hinders the method of the learner.
10. Skill in technique saves time and energy of teacher and pupils.
11. The effectiveness of technique is largely determined by the personality of the teacher.

Agreements as to teaching procedure. After getting these principles of technique well in mind, the teacher and supervisor should agree upon a fairly definite body of acts — such as asking the question and giving time for thinking out the answer before naming the pupil who is to respond, bringing each pupil into the recitation frequently, etc. — that are considered as usually being good technique. They should also agree upon a number of acts — such as repeating the answers of pupils, asking questions that can be answered by yes and no, etc. — that are considered as a rule to be bad technique. The criticisms of the supervisor can then be based on definite principles and pointed to a definite problem which the teacher must work out in his own procedure. The teacher will have a basis for appreciating the sugges-

tions of the supervisor, and also a definite guide in planning in advance for the recitation.

Teaching standards. Another matter upon which teacher and supervisor should have a definite understanding is the standards by which the teaching performance is to be judged. These standards should take into account the status of development of the pupils at the time the teacher takes charge of them, the purpose for which the subject as a whole is being taught, the purpose for which the individual lessons are being taught, the skill of the teacher in handling the class and in presenting the subject-matter of the recitation, and the results secured in the minds of the pupils. These standards may be more or less arbitrary according to the point of view of the supervisor, but, whatever they are to be, the teacher is entitled to know at the outset on what points and on what types of evidence his teaching will be judged. If teacher and supervisor agree to have the same understanding of the types of evidence that will be taken as the criteria for judging the success of the teaching performance, then the teacher can recognize the validity of criticisms and can study intelligently the suggestions made by the supervisor as to how he can improve his teaching. This agreement will go far toward creating the genuine spirit of coöperation which is so essential to securing good results from the work of supervision.

Proper teaching relationships. Another point upon which a clear understanding between teacher and supervisor is necessary is that of the relation each is to bear to the pupils being taught, and to the director of the school in matters of management. The teacher should be given as full responsibility and authority as conditions make possible, but whatever the basis of coöperation in management is to be, a definite understanding must be had in order to prevent confusion and unintentional criss-crossing of decisions and ac-

tions. This agreement must not only cover the relations that are to exist between the teacher and supervisor and director, but it must also include the standards of discipline and the items that are considered in general as constituting good management of the general affairs of the classroom. The teacher should know to what extent he can exercise his authority in dealing with these problems, and he should have some definite idea of the measures that are considered as unwise or at least exceptional. The difference between emergency conditions and those that are normal in the life of the school should be matters of common understanding. In other words, a comprehensive perspective of the whole field of management should be mutually understood at the outset.

The purpose of supervision. A final point which should be mutually understood is the purpose of supervision. The teacher and the supervisor must agree that the teaching under supervision on the one hand and the supervising of teaching on the other must contribute to the accomplishment of two definite ends, namely, the attainment of insight and skill on the part of the teacher, and the efficient education of the children or adolescent boys and girls who are taught by the teacher. The teacher must see quite as clearly as does the supervisor that the education of the pupils in either the training school or the public school must be thoroughly safeguarded. On the other hand, the supervisor must recognize the fact that the efficient training of the teacher must be carefully safeguarded, and in order to do this the teacher must be given as full and free opportunity as possible to overcome weaknesses as well as to strengthen strong points.

The supervisor must realize that he has a great responsibility to meet in making the teacher skillful and reliable as a teacher. He must regard the success or failure of the teacher as his own success or failure in very large degree.

On the other hand, the teacher must regard the work of the supervisor as a supreme opportunity for learning how to teach, and for being trained in the skill of teaching. The supervisor must be regarded as a sympathetic helper from whom consolation, encouragement, insight, and wise direction may be secured. Every suggestion and action of the supervisor must be welcomed as being for the direct benefit of the teacher. In fine, one may say that the teacher and supervisor should feel that their welfare is mutual, and that they succeed or fail together.

Chapter summary. The general basis for coöperative teaching in either the elementary or secondary school involves: clear-cut definitions of method, device, and technique, and an understanding of the fundamental principles underlying each; an understanding of the standards that are to be used in judging the teaching performances; an understanding of the relations the teacher and the supervisor bear to the pupils and the director in matters of management; and an understanding of the exact purpose of the work of the supervisor.

CLASS EXERCISES

1. Compare the definition of method given in this chapter with the definitions given by other pedagogical writers.
2. Give two devices that might be used in the teaching of geography that satisfactorily meet all the principles set forth above.
3. Show how the making of history outlines and the keeping of science notebooks may become merely additional tasks for the pupils to perform, instead of being valuable aids to the pupils in mastering the subjects.
4. Make a list of fifteen items of technique that are ordinarily considered to be good.
5. Make a list of ten items of technique that are ordinarily considered to be bad.
6. Make a list of the types of evidence that you would secure as a means of judging the success of the teaching performance.
7. Show how the success of the pupil being taught by the teacher, the success of the teacher, and the success of the supervisor are mutually interdependent.

CHAPTER VII

OTHER PRINCIPLES UNDERLYING SUPERVISORY METHOD

1. The second principle of method

THIS is that one learns to teach by teaching. This is the fundamental principle upon which rests the idea that teachers can be efficiently and economically trained in the science and art of teaching under the supervision of expert teachers in a training school. While this principle is psychologically correct, it must be interpreted in terms of the various activities that the teacher must put forth in learning how to teach and in acquiring skill in the actual performance.

Anticipatory teaching. The first interpretation of this principle is that one learns not merely by doing, but by correct doing. What, then, is the first step in correct doing? The psychological answer is that one takes the first step in correct doing when he goes through the mental performance of doing the act in anticipation of the actual performance of the act. This mental doing of the act is carried on first through the mastery of the theory or the principles involved in the correct doing of the particular act. When the teacher plans the teaching of a certain lesson, he should teach that lesson in imagination in keeping with the principles involved in the correct teaching of that particular subject or phase of subject-matter. Therefore the first form of teaching that the teacher should practice is that of teaching in anticipatory imagination.

This anticipatory mental teaching is an essential part of the whole performance of teaching. The teacher should master this aspect of teaching as rapidly and as thoroughly

as possible. This phase of correct teaching is the point at which the active work of supervision begins concretely. The supervisor and the teacher work together in setting up the teaching situation in advance of the actual recitation. The teacher, with the guidance of the supervisor, analyzes the situation thoroughly and goes through the recitation in imagination. The supervisor directs the doing or teaching in imagination according to his standards of correct teaching. He must see to it that the mental performance is as nearly correct and as thoroughly standardized as possible, in order that it may be used as the measure for guiding and improving the actual teaching performance.

Value of the anticipatory process. This phase of learning to teach correctly by correct theoretical teaching cannot be too strongly emphasized. The teacher who attempts to learn to teach by actual teaching acts, without a period of mental, imaginative teaching, has no standard or background against which to project the actual teaching performance; hence he has little opportunity for knowing when he is improving and when he is deteriorating. When the teacher has no training in anticipatory imaginative teaching, the supervisor has very little opportunity for making constructive suggestions; hence he must try to construct the standard of correct teaching out of the present immediate teaching experiences of the teacher. These experiences themselves are so engrossing that the teacher has great difficulty in seeing beyond them or through them to the principles involved in the situation.

The teacher in this situation is like the individual who undertakes to learn to ride a bicycle by means of the actual performance without any antecedent imaginative, mental riding of the wheel. The result is that, as the bicycle rider is wholly engrossed with trying to keep the machinery going in an upright position and somewhere in the road, so the

teacher is absorbed in the task of keeping the recitation moving and somewhere in the direction it is supposed to go. The memory of what one actually does on such occasions is a very poor means of checking up the teaching performance so that it can be analyzed and made the basis of learning how to teach correctly. On the other hand, the teacher who is constantly going through a warming up period of imaginative, mental doing of the teaching performance becomes saturated with the principles of correct doing, and can readily recognize how well the actual act of teaching measures up to the more perfect imaginative standard. His actual teaching can thus be made the starting-point for an improved performance in the future, and the improvement can be secured rather rapidly. The value of the work of the supervisor in guiding the training of the teacher in anticipatory imaginative teaching is at once obvious.

Observation of teaching. A second phase of correct theoretical, mental teaching is that which one goes through when he alertly and intelligently observes the correct teaching exhibited by the expert in the particular line of teaching. The observer in this case carries on the mental doing of the teaching act under the direct sensory stimulus of the actual act going on at the same time. This sort of imaginative, mental performance of the teaching act enables the teacher to acquire the habit and skill of measuring the actual act of the expert teacher as it progresses, by means of the more perfect imaginative standard. The observer has an opportunity to acquire a true perspective of both performances. Practice in measuring the actual teaching in comparison with the more ideal performance will lay the foundation for practice in reversing the process.

Finally, then, the teacher should acquire a fair degree of skill in carrying on the actual act of teaching, and at the same time keep the more perfect imagined performance or

standard clearly enough in mind to be able to check up the actual teaching against the standard, somewhat during the recitation itself, but particularly after the recitation. The suggestions of the supervisor will be one of the means by which the teacher may be helped in doing this. The outcome of intelligent observation should be also a direct contribution to the development of a clear conception of a high standard of the actual teaching performance. That is to say, the teacher should possess both an actual standard and a more perfect imaginative standard.

Actual instruction. The third phase in learning to teach by correct teaching is that of performing the act of teaching by direct, conscious imitation of the standard performance of the supervisor, and at the same time making a keen, intelligent analysis of the processes being imitated. The better the teaching done by the supervisor and the more perfectly this teaching is imitated by the teacher, the more efficient the teacher will become, provided, of course, that the teacher analyzes accurately the standard he imitates and finally discovers the principles that underlie the standard performance. In fact, the type of imitation that is meant here is the imitation of the application of principles to the problems of teaching rather than the mere mimicking of the specific acts of the expert teacher. In this sense one cannot imitate unless one analyzes the validity and full significance of what is imitated. The teacher should not ape the supervisor; that is, should not mimic his specific acts.

The result of studied imitation of the type just suggested is independence and finally initiative on the part of the teacher. The teacher who can analyze an actual teaching performance to discover its excellent points that are worthy of imitation, and can then successfully imitate that same skilled performance, or even approximate it in an actual act of teaching, has gone far on the road toward success and

efficiency in teaching. The teacher who can reproduce an actual performance in teaching that equals or even approximates a standard of actual teaching will soon become efficient in imitating in his teaching the more perfect theoretical standards that he sets up in making intelligent lesson plans. The more skill one acquires in imitating or even approximating the theoretical standards of teaching, the more skilled his actual teaching will become, for one can always theorize better than he can practice. Conscious imitation, then, of correct teaching is a definite road to efficiency in teaching.

Directed teaching. Another step in learning to teach by correct teaching is that of teaching by following specific directions and instructions in an intelligent manner. One cannot carry out instructions efficiently without accurately interpreting the meaning of the directions. Accurate interpretation of teaching instructions is a severe test of the teacher's intelligence and resourcefulness. The teacher who cannot understand intelligent directions and carry them out successfully will not be likely to make very intelligent plans on his own initiative. On the other hand, the teacher who can readily comprehend and follow instructions literally will be able to plan and to carry out intelligent schemes of procedure without help. Following specific directions that are given by an expert in the particular line of teaching is an excellent way to acquire valuable experience and to attain skill in doing things definitely.

Learning to do definite things and learning to do things definitely are highly valuable phases of acquiring skill in correct teaching. As the teacher acquires skill in interpreting and following specific detailed instructions, the supervisor should modify the instructions so that they become more and more general. This process of modification will leave more and more details to be worked out by the teacher,

until finally the teacher will be thoroughly competent to plan entirely on his own initiative. The supervisor can now become merely an adviser and make suggestions for the improvement of the directions which the teacher himself sets up for his own guidance in teaching.

Practice to form right habits. A final step in the process of learning to teach by correct teaching is that of practicing with the attention or whole conscious effort centered upon the forming of right habits. The teacher finally arrives, through the training that comes from the various steps of learning to teach correctly, at the place where he is fully aware of what the habits are that he should make permanent in his training. He must now have opportunity to plan for the practice upon certain definite habits and then consciously to attend to the process of putting them into practice. This is a vital aspect of teacher training. The significance of it is that every habit practiced has to pass the test of conscious attention. If one gives close attention to the thing he is doing, he is apt to discover whether it is good or bad; therefore, undesirable habits are not so apt to creep in unconsciously and become set.

Teaching habits to be made automatic. Another interpretation that should be made of the principle that one learns to teach by correct teaching is that one must continue the correct teaching until the habits of correct teaching become automatic. Otherwise the process of learning does not pass beyond the stage of mere comprehension. Correct habits of teaching must pass beyond the stage of mere comprehension and become automatic before the teacher attains freedom in doing things spontaneously upon his own initiative. The teacher who has had no supervision in the forming of correct habits of teaching, and who goes into a public school system to teach where little or no systematic supervision is provided, may seem to have a great opportunity to

exercise initiative. This is true, in a certain sense, but such a teacher has the best opportunity in the world for forming many incorrect habits of teaching which will be very difficult to break, even after the teacher becomes aware that the habits are bad and desires to get away from them.

There is a vital difference between initiative that is based upon the unconscious utilization of habits that have been formed in keeping with sound principles, and initiative that means merely the freedom to learn things by the trial-and-error plan of doing. Such initiative is not really freedom, for the teacher is a prey to his own ignorance and lack of skill in teaching. If one wishes to arrive at a definite goal in the shortest time possible, one must travel on the road that leads most directly to the goal. The most direct road to intelligent initiative in teaching is that of imitating and following specific directions of an expert teacher, and of practicing, with conscious attention upon the task of forming right habits, until a reliable body of correct habits has been rendered automatic. The danger is not that the teacher will become too automatic in his habits, but that he will not become automatic enough. In other words, habits that have not become thoroughly automatic require too much attention of the performer, so that the purpose that the practice of the habits is to further is largely lost sight of in the recitation. The more automatic the habits have become, the more unconsciously they are performed; hence the attention of the teacher is fully free to consider the real goal of the recitation.

2. The third principle of method

Breaking up incorrect habits. Incorrect habits of teaching can be largely if not wholly avoided and prevented, by practice under the consistent and intelligent guidance and advice of the supervisor, especially during the early attempts

of the teacher. A second aspect of the principle is that incorrect habits can be discovered and broken up before they have become at all fixed or automatic. This is a fundamental point. Many people hold the idea that one has to make errors in order to learn the correct way to do a thing. They argue that one learns as much from his mistakes as he does from the things he gets right. A common expression is that "One has to find things out for himself." This is undoubtedly correct according to the psychology of learning, but, while one must find things out for himself, he does not have to find them out by himself. The intelligent human being can learn from the advice and explanations of one who knows what is right and what is wrong without committing the error.

If this is not true, then the whole psychology of apperception is false, and imagination is a rather useless mental process. The individual who lacks the apperceptive basis that would enable him to understand an explanation of why a certain habit is not good is hardly ready for teaching under supervision. Such an individual will take too much time acquiring the basis if he has to acquire it from practicing mistakes.

Finding out things for and by one's self. What, then, is the difference between finding things out for one's self and finding them out by one's self? The psychological explanation is this; if a person really knows a thing, he must possess the mental elements and put forth the mental processes that are necessarily involved in the knowing of that thing. No other person can do this for the individual. This being true, then the problem resolves itself into determining the kinds of agencies that may stimulate the mind of the individual to put forth the necessary mental processes and organize the essential mental elements. If the learner is so situated that he must find the agencies for stimulating his

mind to put forth the mental processes and to organize the mental elements in his own immediate acts, then he learns what is wrong or right, for himself and by himself. If, however, the learner is stimulated to set up the mental processes and to organize the essential mental elements by the advice and explanations of another person, then he learns the thing for himself, but not by himself. He has learned for himself what the race or some other individual had to learn by himself. In other words, the individual has learned for himself so that he knows full well, by the aid of the supervisor, the mistake or error, without going through the actual performance of making the mistake.

Application to teacher training. This is one of the most important arguments that can be brought to bear upon the point of view that some hold that practice schools cannot in any true sense train teachers by giving them genuine experience. In fact, it is the basic argument upon which the whole idea of education by means of schools must rest. If it will not hold, then the present generation cannot profit by the wisdom of the past, and "book-larnin'" is an empty sham. That being true would mean that schools are a sham, for they must necessarily deal with a vast amount of "book-larnin'"; or, to put it less harshly, they must engender a great amount of learning from and by means of books. To point the argument back again to the problem under discussion, one may rightly say that if schools in general are justified agencies of education, then training schools are certainly justified agencies for educating teachers. And, finally, if the training school is a justified agency for training teachers, then teacher-"larnin'" or, better, supervisor-"larnin'" is valid. Furthermore, the work of the supervisor in keeping the teacher from practicing incorrect acts of teaching is just as valid as that of directing the teacher in putting forth correct performances.

Breaking bad habits; training schools *vs.* city schools. The problem of breaking incorrect habits is much more prominent and perhaps more difficult in case of the city supervisor than it is in the case of the supervisor in a training school. The teacher in the public school has usually had some experience in teaching, and very often has formed a number of habits in technique that in general are bad. The teacher is often satisfied with his technique, no matter how faulty it may be, and tends often to feel resentful toward the criticisms and suggestions of the supervisor.

The first objective that the supervisor should attain is that of securing a receptive attitude toward suggestions and constructive criticisms. The next objective is that of eliminating the faulty habits of teaching and establishing correct ones in their stead. This objective can be reached most effectively by attacking one or two of the most vital incorrect habits at a time, and continuing the attack upon them until they are thoroughly broken up. This plan insures a steady and definite progress in the elimination of bad habits.

If too many bad habits are attacked at once, slow progress will be made in breaking them up. This slowness of progress is due to less concentration of attention than can be secured when only one or two habits are under consideration at one time. The fact that slow progress is made in breaking up a number of habits that the teacher recognizes as bad tends to discourage the teacher and makes him still less efficient than he would otherwise be. The success attained in dealing definitely with one or two bad habits at a time encourages the teacher and strengthens his appreciation of the value of the work of the supervisor. The teacher gains confidence in his ability to improve, and the effect of this attitude of the teacher toward his own work is inestimable.

3. *The fourth principle of method*

Developing initiative and independence. The fourth principle is that the teacher must ultimately be given ample opportunity to plan and carry out regular teaching work, and be responsible for every phase of it, without suggestions or help of any kind from the supervisor. This stage of the training should develop the habit of attacking new problems and working out their solution independently. Initiative at this stage should mean, as perhaps never before, the habit of going into things thoroughly and intelligently. Up to this time the teacher has consulted the supervisor before attacking new problems in order that he might acquire most rapidly the insight into correct principles of teaching and be safeguarded against forming incorrect habits. Now, however, the teacher comes to the final test as to whether the training given under the guidance of the supervisor has laid the foundation for thoroughgoing initiative.

The supervisor must now keep hands off, and keep out of the teacher's way. The time has now come for applying the standards by which the work of the teacher should be judged and finally ranked. It is also the time for the supervisor to apply the standards that should be employed in measuring the effectiveness of the work of supervision. The work of the supervisor at this stage of the training is that of a sympathetic visitor, who is anxious to see the teacher at his best and who is looking for the best that the teacher exhibits in his work.

Summary of the section. The method of supervision is based upon four fundamental principles: First, the teacher and supervisor must possess common knowledge and hold common points of view concerning the school, the pupils, the subject-matter, the principles of method of teaching, principles of devices, principles of technique, the standards

by which teaching should be judged, the responsibility and authority of each in matters of management, and the purpose of the work of supervision. This basis enables teacher and supervisor intelligently to understand one another in everything that they do in coöperation. Second, one learns to teach by correct teaching. Third, errors are not necessary to further the learning process, and incorrect habits may be avoided and prevented through the advice and guidance of the supervisor. Fourth, the test of guided teaching is whether or not it lays the foundation for independent thinking and initiative in discovering and solving new problems.

CLASS EXERCISES

1. Give five examples from daily life to show that one goes through the mental performance of doing things in anticipation of being called upon actually to do them.
2. Give a description of your mental performance that went on in anticipation of your first day in the schoolroom as a teacher.
3. Describe your actual performance on that first day of school, and check it with the anticipatory mental performance to see how nearly they coincide.
4. Analyze as accurately as you can your mental performance on your first observation of an expert teacher's presentation of a particular lesson. To what extent were you able to anticipate the successive acts performed by the teacher? Did the ability to foresee the acts of the teacher develop with practice in such observation?
5. Give five illustrations of actual imitative performances that were as exact copies of the original performances as the imitators were able to make them.
6. Give two illustrations of actual imitative performances that followed the same principles that underlay the original performances, but adapted the acts or steps to suit the particular situation.
7. Give four or five illustrations from your experience that show how difficult it is to give a set of directions that will be proof against misinterpretations.
8. Make a set of directions that would enable another person to go, without loss of time and without securing other aid, to a certain place in a particular city, or large town, or country; to a certain room in a large building; to secure a certain book from a shelf in a particular library of some size.

9. Give five examples from your own experience of the effect upon habit formation of concentration of attention upon the steps of the habit.
10. Give as many examples as you can from your own experience of teaching habits that have become automatic.
11. Give five examples from your own experiences, outside of school, of errors that you have avoided by being advised ahead of time.
12. Give five examples, from your own experiences, of errors that you have avoided by being advised by some experienced individual.
13. Give five examples, from experience, of faulty habits that were readily broken up through advice and supervision in the first stages of their formation.
14. Give one or more examples in which the supervisor hindered the development of the teacher by failing to put the teacher on his own responsibility at the proper time in his training.

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SECTION B

DEVICES OF SUPERVISION

CHAPTER VIII

PRINCIPLES INVOLVED IN THE SELECTION OF DEVICES

THE significance of the principles involved in the selection of devices will be more readily seen by again getting clearly in mind the definition of device. A device is any means, other than subject-matter itself, employed by the teacher in presenting subject-matter to the mind of the learner.

Devices should be economical. One of the important phases of economy is the saving of time for the supervisor. A device may require a considerable amount of time to work it out thoroughly and completely in the beginning, but, if the device is a permanent one that may be used for a long time and with very little modification from time to time, then the device is an economical one. By economy of time for the supervisor, one should consider the ultimate amount of time, and not the immediate amount that is required for the preparation of a thoroughgoing, permanent device.

The idea of permanency of devices should be emphasized. Devices have been poorly selected if they have to be discarded when the same situation is to be dealt with again and again. For example, a set of general instructions to beginning teachers is a good device. If these instructions are thoroughly organized and clearly stated, then printed forms may be used for a number of years without any changes being necessary. The working-out of such a set of instructions would require some time and care, but the permanency of it

would save the time and energy of the supervisor in the long run. The following is an example of such a set of permanent directions:

OREAD TRAINING SCHOOL

General Instructions to Senior Teachers

Caution.

1. Read these instructions carefully. Be sure that you understand them. Go over them each day before going to class until you have thoroughly mastered them and can carry them out automatically.

Conferences.

2. Confer with the supervisor of the course before beginning the work.
3. Teachers' meeting every Wednesday, at 8 A.M. This is a part of the teacher's work, and absence from these meetings will count the same as absence from the teaching hour.

Absence.

4. When absence from any of the work is unavoidable, the teacher must notify the director and also the supervisor of the work in ample time for provision to be made for the class. All requests for absence must be made to the director of the school.

Class schedule.

5. The Oread class schedule: (*a*) All classes meet five days per week; (*b*) all sciences have double periods for laboratory two days per week; (*c*) all classes begin and close according to the schedule of hours that governs the University classes; (*d*) whenever University classes are set aside for convocation, holiday, or special occasion, the Oread classes are set aside for the same periods of time.
6. Do not dismiss the class before the end of the period. Do not permit students to leave the room before the end of the period on quiz days.

Lesson plans.

7. Weekly lesson plans are required from the beginning. In making out the advance lesson plans on blank A, give the full outline of the assignment as it will be given to the class. Blank B should give the exact order of procedure and the

work actually done. Both blanks are due in the director's office on Monday before the class period, the A blank for the week just beginning, and the B blank for the week just past. These must be in on time to be of value and to be fully credited.

8. A copy of all quiz questions must be filed in the office at least one day before the quiz is to be given.

Class records.

9. Enter the names of students in the class record in alphabetical order, giving the surname first.
10. Enroll only those who have class cards properly signed.
11. Keep the class record according to the following system of marking: E for entered; W for withdrawn; X in lower half of square for present; T for tardy; A for excused absence; A/O for unexcused absence.
12. Require each student to present an excuse signed by the director for each absence or tardiness. Sign the excuse. Return it to the office if you are the last teacher who should receive it.

Reports.

13. Report all absences and tardiness each day before leaving the building.
14. Report unsatisfactory work at once to the office. Have a conference immediately with each student who is doing unsatisfactory work. Report each conference to the office without delay. Use the regular blanks provided for these reports.
15. Report cards are issued to the students at the close of each nine weeks. Get these cards from the office on Monday of the ninth week. Issue them to the students on Wednesday. Take them up and return them to the office on Friday.

Grading of students.

16. Enter a grade in per cent for each week. This grade is the summation or average of all the items of work required. Enter a final grade in capital letters at the close of each nine weeks. This grade is the summation or average of class work, oral and written quizzes, notebook, etc. Enter also a final grade in per cent for each item that goes to make up the capital letter grade. Indicate what part each item is of the final grade. The capitals used are: A, B, C, D; and F for failure, Cond. for conditioned. State the terms of the condition. Use "No Ex" for not examined.

Conferences with students.

17. Encourage students to come to you voluntarily for conferences about their work. Set a regular conference hour that will enable the students to meet you. Give them your name, telephone number, and street address, and encourage them to call you up about their work, especially when they are absent from class. Indicate the time when they can be surest of reaching you.
18. Decide what kinds of work can be made up by the student when he has missed the recitation and what kinds cannot be made up. Have a definite plan for the making up of each kind of work. Set a definite time within which the work must be done.
19. Watch the bulletin board daily for announcements.

The following list of instructions to teachers which might well be used by a supervising principal or a superintendent in a small school system is another example of such a permanent set of directions:

INSTRUCTIONS TO REGULAR TEACHERS

School sessions.

A. First day of school.
 - *a.* Assemble the pupils promptly at the regular time for beginning the school day.
 - *b.* Secure the names of the pupils.
 - *c.* Determine positively that each pupil belongs in your room.
 - *d.* Give the pupils the list of books and other materials that they need.
 - *e.* Dismiss the pupils for the day.
 - *f.* Devote the remainder of the day to arranging your program and organizing your work for the week.

B. Regular school days.
 - *a.* Keep the school full time unless instructed to dismiss earlier.
 - *b.* Provide in your program for two ten-minute intermissions during each session.

C. Holidays.
 - *a.* School will not be in session on Labor Day, Thanks-

giving Day and the day following, from Friday before Christmas until the Monday following, New Year's Day, Washington's Birthday, Columbus Day, Decoration Day.

D. Last day of each semester.

a. The pupils will come for their reports at the last hour in the school day.

E. Teachers' meetings.

a. Meetings will be held at the central building every two weeks on Friday at 3.30. Dismiss at 3 on those days.

Supplies.

A. Send an accurate itemized estimate of all supplies needed for the following month to the principal on Monday of the last week of each month.

B. See that supplies are not wasted or destroyed.

Records.

A. Keep accurate daily records of pupils' grades, absences, and tardiness.

B. Keep an accurate record of the amount of each kind of material used per pupil for the year. This is important as a basis for estimating the amount of supplies needed for the succeeding year.

C. Keep a record of parental visits to the school.

Reports.

A. Report all absences to the principal at the beginning of each school session.

B. Report promptly concerning any school property that needs looking after, such as broken windows, damaged window shades, etc.

C. Report promptly when the temperature of the schoolroom is too low for comfort and health. If the condition cannot be satisfactorily remedied within an hour, dismiss school for the remainder of the half-day session or whole-day session according to the conditions.

D. Report promptly any seeming indications of possible breaking out in school of contagious diseases.

General management.

A. Teachers in charge of playgrounds, halls, and toilet-rooms during intermissions will have control over all pupils under their supervision.

B. Allow only one pupil to be absent from the room at a time during class hours.

C. Instruct pupils to report all found articles at the office, and to inquire there for lost articles. Do not permit pupils to go from room to room to inquire for lost articles or for owners of found articles.
D. Be alert to respond to the fire alarm at any time. You will not be notified as to whether it is for drill or actual fire.
E. The teacher should, except in very extreme cases, handle all matters of discipline without appealing to the principal.
F. Keep luncheon pupils in the room until the others have passed out of the building, then send them to the lunch room.
G. Pupils should not remain in the room during intermissions except in special cases.
H. Pupils should not enter the building before the time for classwork to begin, except in inclement weather, and special individual cases.
I. Supplementary books furnished by the school should not be taken from the building.
J. Pupils should be assembled and dismissed in orderly fashion.
K. Home study should not be assigned to grade pupils.

Saving the time of the teacher. Another phase of economy is the saving of the time of the teacher. The use of the device ought to save time according to the results to be secured. Take again the example just mentioned of the printed instructions to beginning teachers. This device gives the teacher an opportunity to study the instructions thoroughly and to keep looking them over until their significance is thoroughly understood and the duties they enjoin are made habit. If the teachers had to receive these instructions verbally from the supervisor, they would have to take the time to copy them before they could be mastered. Errors in copying would occur and confusion on important points would result. Count up the amount of the teachers' time that would be consumed through giving general instructions orally and it will certainly convince one that a device should conserve the teachers' time.

Conservation of materials. Another form of economy in devices is that of the conservation of materials consumed.

Economy of the materials must be judged in the light of the results obtained. The printed instruction sheet, for example, would be economical compared to oral instructions in the light of the results obtained. The sheet itself may be planned in such a way as to save space without decreasing the effectiveness of the device. If the print is too small, the conservation of material cripples the effectiveness of the device and no genuine economy has been effected. Here again comes in the idea of permanency of the device. A device that can be used only once, or a very few times at most, wastes materials to no good purpose. For instance, a printed form for a daily lesson plan would be wasteful and ineffective if the items in it were changed every semester, or every year or two, so that the old forms not used up would have to be discarded. This conservation of materials should be taken into account in working out devices, so that the greatest care will be exercised in making the devices as perfect and permanent as possible.

Another phase of economy of materials used is the cost of permanent materials. The first cost of hectographed or mimeographed sheets of instructions, for instance, would no doubt be less than the cost of printed sheets, but the printed sheets are of better material, or should be, and in the long run they are more economical from a cost standpoint. Take the course of study in a subject as another illustration. A printed course will be more durable and serviceable than a mimeographed outline, although the first cost will be greater. The point, then, is that for permanent devices the economy is not in the cheapness of materials, but in securing the most satisfactory and usable materials.

Economy a relative matter. The principle of economy in devices is a relative matter, as has been shown by the above discussion, and it must be worked out in relation to the other principles that are important to consider in the selection of

devices as well as in keeping with the four aspects of economy that have just been set forth. The dominant idea that should determine whether the devices used by the supervisor are economical or not is that of the time saved in getting things well done. Devices that are effective in saving time for both supervisor and teacher must necessarily eliminate the waste that is entailed by the inefficiency of a device that consumes time to no good purpose. In other words, to save time and yet do a piece of work thoroughly and efficiently, one must do only necessary things; that is, one must deal with just the essentials. The value of learning to do things definitely and concisely is very great. One cannot do things concisely without having a definite, clear-cut goal in view. Therefore, the working-out of devices that economize time insure a clarity of thinking and direct attack upon specific problems in training and directing teachers.

Devices should be effective. One criterion of the effectiveness of devices is the immediate results that come from the use of the devices. The value of the immediate results should be commensurate with the time, energy, and cost involved in the use of the devices. The giving of general instructions, for example, in printed form consumes little time and energy on the part of both supervisor and teachers. The immediate results are perhaps as great as could be secured from the use of any other form of device. If these same instructions are given orally, the supervisor can discuss the points and illustrate the significance of the various instructions. This might mean that the immediate results are more effective than they are when the printed instructions are used. The difference, however, in the immediate results that are secured by the oral device and those secured by the printed instructions is not commensurate with the difference in time and energy consumed by the use of the oral and printed devices respectively. Moreover, the im-

mediate results secured from the use of the printed device are highly satisfactory.

Another criterion of the effectiveness of devices is the ultimate results that are secured through their use. The ultimate results, likewise, should be commensurate with the time, energy, cost, and immediate results involved in the use of the particular devices considered. The ultimate results of one device should also be compared with the immediate and ultimate results of other devices. The ultimate results of the printed instructions, for example, far surpass both the immediate and the ultimate results of the oral instructions, for they afford a longer period of study and they can be consulted again and again in the face of actual situations that call for their application. The ultimate results of the printed devices also greatly augment the immediate results and build directly upon them. This not only makes the printed device more effective, but also more economical from the standpoint of permanent habit formation.

Devices should be usable. One criterion of the usability of devices is the frequency with which they may be employed to advantage. Other things being equal, the more frequently the devices can be used effectively the better they are. The printed instructions measure up satisfactorily in this regard. They can be used term after term without modification or extra effort in preparing them for use. A device that could be used only at long intervals must be found valuable for other reasons than the frequency with which it may be employed.

A second criterion of the usability of devices is the extent to which they can be employed in different subjects and situations. Take, for example, a detailed plan for daily recitation. A well-organized plan should be usable for practically every day's lessons and for all subjects. Such a

form should be inclusive so that the essential items that may enter into any recitation will be definitely considered. The items that do not happen to come into a particular recitation can easily be left blank. The fact that the form contains all the essential items that are necessary to be included in recitations at different times renders the device all the more effective because of the suggestiveness of such a constant reminder of the points concerning which decision must be made when making a detailed daily lesson plan.

A third criterion of usability is the accessibility of the devices when they are needed. The printed instructions for beginning teachers and printed forms for daily lesson plans are good examples of devices that are readily accessible when needed. Suppose the supervisor depends upon giving instructions, as they seem to be needed, through the device of teachers' meetings, then the device is not readily accessible, for such a meeting cannot be held at just any and all times. Accessibility, then, is an item that should be given very careful consideration in planning and selecting devices.

Devices should not be too numerous. The number of devices employed by the supervisor, especially to accomplish the same purpose, should not be multiplied needlessly. One carefully selected device that has been highly perfected will accomplish more than several devices more spontaneously selected and less thoroughly organized and perfected. Suppose, for example, the supervisor undertakes to use teachers' meetings, bulletin board, hurriedly written mimeographed sheets, announcements in classrooms, and individual verbal notifications as devices for giving instructions. The very multiplicity of devices is confusing to the supervisor and even more confusing to the teachers. The supervisor makes hurried decisions as to which device to use for a particular kind of instruction, and often chooses the one that is least effective for that particular situation and time. The teach-

ers are confused as to what form is to be looked to for important information. They get to relying on one form and miss the instructions when they are issued in another form.

If, on the other hand, the supervisor depends entirely upon a printed sheet for giving all general instructions, and perfects this device until it includes all essential items, well organized and classified, then there is no confusion on the part of either teachers or supervisor. The supervisor knows when the full instructions are in the possession of the teachers, and the teachers know how to keep fully posted as to their general duties.

Devices should not be too meager. The work of the supervisor may be seriously handicapped if the number of devices is too meager. While a multiplicity of devices is apt to be confusing, a paucity of them is likely to be deadening. Take the problem of coming to a common agreement upon the dominant mental traits of childhood or adolescence, for example. Here the supervisor might first give an oral discussion of these mental characteristics. Then he might give the teachers definite references to books on psychology that would give these same mental tendencies, and finally he might put printed or mimeographed copies of a well-organized list of these dominant mental traits and tendencies into the hands of the teachers. Each device has brought the materials before the teachers in a different form, and in this way has secured prolonged attention and study with the interest that comes through comparison, verification, and completeness of knowledge. Any one of these devices alone would not have accomplished the same results. Paucity of devices, then, may readily lead to indifference and ineffective or partial mastery of very important subject-matter.

Devices should bear a logical relation to the end they are to aid in accomplishing. For example, putting a printed list of the dominant mental traits of childhood into the pos-

session of the teacher is logically related to the aim of securing a body of common knowledge concerning children. The use of the bulletin board as a means of giving specific instructions to individual teachers is using a device that is not logically related to the end it is to further. One does not naturally look to a bulletin board for other than general announcements; hence it is not a good medium for giving detailed information to a considerable number of people. On the other hand, the bulletin board is a logical device for disseminating general news and emergency information.

Devices should be a means. The devices used by supervisors should never become an end in themselves, but should always be the means of accomplishing definite ends. Therefore the devices should not attract attention to themselves, but they should be the means of centering the attention of teachers upon the things that are to be mastered, and they should make the mastery of these things more readily and effectively accomplished. This point should be clear and emphatic in the mind of the supervisor. The supervisor should not become so engrossed in the problem of inventing devices that his attention is more upon the devices than it is upon the results to be obtained by using the devices. In other words, the manipulation of any device ought not to detract the attention from the consideration of the matter that is being presented by means of the device.

Take, for example, the form for a daily lesson plan. The device is to aid in securing a systematic, definite preparation and thorough organization of the lesson in advance of the recitation. The supervisor may become so engrossed with getting just certain items — such as the five formal steps, for instance — put down in a regular order in every plan that he loses sight of the purpose for which the device was invented. Then the device gets in its own way and the best results cannot be secured. The matter of chief concern to

the teacher is that of getting every item down just so. That is to say, the teacher is engrossed with manipulating the device so that every cog of the machine is there, whether it is of any service in the particular lesson or not. A form for a daily lesson plan is a good device that will train teachers in the ability and skill to do things thoroughly and definitely. Such a form, however, should be suggestive and not mandatory. It should be inclusive, but adaptable. The teacher should be free to bend the device to the helpful purpose it is intended to serve.

Devices should be classified. Supervisors may be greatly aided in their thinking about devices, and especially in making clear distinctions between principles of method and devices, and between principles of technique and devices, by working out definite classifications of all devices. Any classification of devices must be more or less arbitrary. If, however, the definition of device that was given in a former part of this discussion is adhered to, then the main idea that should dominate in classifying devices is that of inclusiveness. That is to say, every type of means that may be employed in the work of a supervisor should be included in an adequate scheme of classification.

The following scheme of classification is intended to suggest the various types of devices that may be helpful in this field:

1. **General devices.** A general device is one that constitutes a part of any well-equipped school, and one that may be used by many people for a variety of services. General devices are of two kinds:
 a. *Material.* A bulletin board is a general device of the material type. A printed sheet of general instructions to teachers is a general device of the material sort. A material device, then, is a device which renders its service by virtue of its material form of existence.
 b. *Intellectual.* An intellectual device is one that renders its

service by virtue of its intellectual form of existence. A discussion, a lecture, and a series of questions are intellectual devices.

c. *Material and intellectual.* A device may be both materia and intellectual. For example, the supervisor may give the teacher a list of questions that the teacher must answer in working out a lesson plan, or a list to be used in dealing with problems of discipline. In such cases the material device is employed to make the intellectual device available. A clear distinction should be drawn between such cases as these and the printed sheet of general instructions. The material device in the printed sheet of instructions is for the purpose of presenting subject-matter. When the teacher reads this subject-matter he has received what the device was used to accomplish. This is not the case in the list of printed questions given to the teacher in reference to the lesson plan. In this case the material device presents a form of subject-matter that is a further device for assisting the teacher in acquiring the ultimate form of subject-matter that the supervisor wishes to have mastered. That is to say, the form of the questions is not the goal of learning, but a device to stimulate learning. Clearness of thinking on this point will prevent the intellectual device from becoming the center of the supervisor's attention instead of simply a means of centering the teacher's attention upon the real goal of learning.

2. **Special devices.** A special device is one that has been invented for use in a particular situation, or for use in connection with a particular subject, or some particular phase of a subject. Special devices are also of two kinds:

a. *Material.* A series of graphs showing the distribution of grades of the pupils in the particular subject or subjects for former years would be a special device of the material type. The point that was made in the discussion of general devices should be kept in mind in making this classification. The material form of this graph is for the purpose of presenting definite subject-matter that is the goal of instruction, and not for the purpose of making an intellectual device available.

b. *Intellectual.* A demonstration lecture on the art of ques-

tioning in history would be a particular or special intellectual device. Special forms of questions that are adapted to stimulate certain types of teachers to an appreciation of their needs is a special intellectual device. Every supervisor should make a careful study of such devices and be resourceful in inventing them.

c. *Material and intellectual.* The special device that is both material and intellectual possesses the same characteristics that were set forth in the discussion of the general device of this same type; that is, its material form is employed to make its intellectual form available. A printed list of questions that are adapted to making teachers of a certain type realize their weakness would be a good example of a special device of the material and intellectual type.

Chapter summary. The principles involved in the selection of the devices of supervision include the following characteristics: devices should be economical, effective, usable, not multiplied needlessly, not too meager, logically related to the ends they are to further, not an end in themselves, and classified according to well-defined distinctions. Supervisors and teachers should study these principles thoroughly, and the selection of all devices should be made in keeping with the bearing these principles have upon the goals to be attained through the use of proper adequate devices.

CLASS EXERCISES

1. Criticize the list of "General Instructions to Senior Teachers," given at the beginning of the chapter, as to organization, completeness, or excessiveness of details, etc.
2. Make an estimate of the amount of time actually saved for the administrative officer by the use of the printed instructions, instead of giving the same instructions orally to a group of thirty teachers. Estimate the additional time saved for ten supervisors, who would necessarily have to supplement and repeat the oral instructions given by the administrator.
3. Give an illustration of a device that, otherwise good, would involve such expensive materials or other expense that it should not be used.

4. Give an illustration of a device that would be valuable just for the immediate results it would secure.
5. Give an illustration of a device that would be valuable chiefly for the ultimate results it would secure.
6. Give three or four devices that show marked differences in usability as to frequency, in different subjects, and accessibility.
7. Give ten examples, from your experience, of the employment of too many devices.
8. Give an example, from experience, in which too few devices were used.
9. Give three illustrations of logical devices.
10. Give three illustrations of illogical devices.
11. Give two examples, from experience, of devices that were made ends instead of means.
12. Criticize the classification of devices given in the chapter as to helpfulness, consistency of organization, completeness or excessiveness of details, etc.

CHAPTER IX

DEVICES THAT ILLUSTRATE PRINCIPLE ONE OF METHOD

THE devices that are herein given have been used by the writer and supervisors working under his direction and found valuable as measured by the principles involved in the selection of devices, as just stated, and as measured by the extent to which they further the application of the principles of method previously stated as underlying the science and art of supervision. The primary point of departure in working out the problems of selecting devices is the principle of method that is to be applied. The secondary point of attack upon the problem is the set of principles underlying the selection of devices. The writer has already indicated how the application of this set of principles may be employed as a criterion for determining the selection of adequate devices. Therefore, in this discussion and description of devices, only the primary point of attack will be raised. The reader will raise the secondary point of attack and pass judgment as to how far the devices described measure up to the criteria set forth in the preceding chapter.

The problem. The problem here is to invent devices that will aid the teacher and supervisor in understanding the same facts and holding the same points of view concerning the educational situation in which the coöperative teaching is to be carried on. The educational situation involves the school, the pupils, the course of study, the science of method of teaching, management of the teaching situation, judging the results of teaching, and the purpose of coöperative teaching. The goal may be stated in simple form as follows: To give teachers and supervisors common understanding and

points of view concerning the educational situations in which they work together.

Facts as to educational situations. The first fact that is perfectly obvious is that the teacher and supervisor must canvass the facts that each knows about the different aspects of the educational situations that confront them, and come to an agreement as to the essential facts that shall be accepted as valid. These facts can then be held in mind and referred to as a basis for departure in the solution of teaching and management problems. The most reliable means of getting a comprehensive body of facts together is to set them down in printed form. Since the supervisor is to be the leader in the process of coöperative teaching, the supervisor should commit his knowledge and points of view of the educational situation to printed form, so that it may be used as a ready means of getting the whole body of data before the mind of the teacher. Nothing clarifies one's thinking more effectively than the committing of one's ideas to definite and permanent language forms.

For example, the supervisor may have the psychological principles of the psychology of childhood and of adolescence fairly well in mind. The teacher may also have these principles quite well in mind, as a body of psychological facts. The truth is, however, that these facts of psychology will have very little influence upon the teaching and management performance unless they are translated into definite, detailed items of application, and illustrated by cases of actual behavior of school pupils.

A second fact that is quite as obvious is that when one has committed his point of view to a permanent form, he has an anchor that keeps him from drifting about when the pedagogical stream becomes turbulent and muddy. One forgets what he has said and thought and done if he has no witness whose evidence is unimpeachable to put the record before

him. The supervisor cannot make the mistake of giving the teacher one point of view to-day and a radically different one to-morrow if he has committed his point of view to printed form, and if the teacher has agreed with the supervisor upon that point of view. This printed form also serves as an anchor for the thinking of the teacher, once the teacher has agreed to its validity. Then the teacher cannot plead ignorance as an excuse for the things that he does, and he cannot attempt to justify his procedure on the validity of a point of view different from the one upon which they had come to a satisfactory agreement.

Value of printed forms. The first suggestion, then, is that the supervisor shall put printed material, concerning the aspects of the educational situation upon which he should come to common understanding and agreement with his teachers, into the hands of the teachers at the very beginning of their coöperative undertaking. The second suggestion is that the supervisor will not take for granted that the mere reading of this printed material will bring the teacher into harmony with his own thinking, but that he should go over this material in personal conference after the teacher has studied it thoroughly. The teacher should be held responsible to accept or to object to the various details of the material, and to give valid grounds for accepting or rejecting each item. And, finally, a definite and mutually satisfactory understanding should be reached before the first coöperative class recitation is held. Then teacher and supervisor should get into the habit of coming back to definite data upon which they have agreed as the point of departure in interpreting and meeting the actual conditions and circumstances of the schoolroom.

The suggestive printed material that supervisors might use as the device for getting the data concerning the school, the pupils, general principles of method, principles underly-

ing the selection of devices for classroom instruction, principles of technique, and a statement of the relations that might well exist between teacher and supervisor in the process of coöperative teaching, has already been given in sufficient detail to render the repetition of the data unnecessary. The devices, then, that have proven most adequate in applying the first principle of method are: definite detailed printed data placed in the hands of the teacher, and personal conferences, either group or individual, or both, until the desired agreement is reached.

Section summary. The best means for enabling one to know what he really thinks and believes is to set one's ideas down in printed form. The supervisor and the teacher can best come to an understanding and common agreement upon their mutual educational problems by committing their ideas and beliefs to printed form, and then conferring upon them until agreement is reached. The things upon which they agree should be committed to printed form and held by each as the guide to common practice.

CLASS EXERCISES

1. Make a list of ten concrete cases of actual behavior of pupils that exhibit principles of child psychology which teacher and supervisor should understand in common.
2. Make a list of ten concrete cases of actual behavior of pupils which exhibit principles of adolescent psychology that teacher and supervisor should understand in common.
3. Give two examples, from experience, in which failure of teacher and supervisor to see the same principles of child psychology involved led to friction and inefficient handling of the cases.
4. Give two examples, from experience, in which failure of teacher and supervisor to see the same principles of adolescent psychology involved led to friction and inefficient handling of the cases.
5. Make a list of instructions that you think would be helpful to a teacher in handling a particular group of pupils on the first day he is placed in charge.
6. Select some teaching problem and commit to written form your views concerning it. Note the effect that the procedure has upon rejection of first ideas and satisfactoriness of final selection of ideas.

CHAPTER X

DEVICES THAT ILLUSTRATE THE REMAINING PRINCIPLES OF METHOD

I. The Selection and Organization of Subject-Matter

Practically all the devices that are now to be given further the remaining principles of method, in varying degrees; hence they will be given without attempting to identify them specifically with the principle or principles that they may seem to further most adequately. To attempt to do so would entail a great deal of repetition of discussion without materially increasing the value of the suggestions. The reader will be able to place the devices in their proper relations to the principles of method that they further. The connections of the devices suggested with the last seven activities that the supervisor should carry on are obvious enough to make a statement in each case unnecessary.

1. The courses and instruction

Subject-matter in permanent form. The selection and organization of subject-matter should be worked out in permanent printed form. The supervisor should work out a comprehensive, detailed statement for each course that he supervises. The complete course should be placed in the hands of each teacher, and each teacher should be held responsible for knowing the relation that the part of the course he happens to teach bears to the whole course. A complete statement of a course should include the items discussed below.

Purpose for which the subject was organized. The teacher should know definitely the conventional significance

that attaches to the subject-matter he is attempting to teach. This should have been and probably has been learned in the special course in method of teaching, but the repeated coming-back to the statement will be of great value in keeping the ultimate end of the learning of the subject clearly in mind, and will enable the teacher to keep a proper balance between the conventional purpose and the immediate purpose for which the subject is being taught.

Purpose for which the subject is being taught. This statement requires the greatest care and most thorough consideration. After one has got the conventional significance of a subject in mind as a science, and has also in mind the psychological needs of the child, or adolescent, then he is ready to decide on what grounds any particular subject should be taught to any certain group of children, in either the elementary or secondary school.

He can decide what phases of the science as a whole, and what degree of complexity of these phases should be or can be taught to advantage to the particular group of children. The immediate purpose, then, involves a definite stage of progress toward a mastery of the conventional significance of the subject, and a realization of the psychological needs of the pupil through the proper stimulation and development of his normal tendencies and capabilities. The statement of immediate aim or purpose for teaching the subject to the particular group of pupils has a great influence upon the daily work of the teacher. This part of the statement of the course of study should, therefore, be made very clear and explicit. It should be clear enough and explicit enough to show what the particular subject will do that no other subject will do toward the education of the pupil.

Changes going on in the subject. The accumulation of human knowledge has become so great that many modifications and changes are going on in most subjects to meet

changing social and psychological needs of pupils. Changes are also necessary in many subjects for the purpose of solving pedagogical and administrative difficulties. The statement of the course should make clear whatever changes are going on in the subject as a part of the elementary- or secondary-school curriculum, and why these changes are taking place.

Define the unit of credit in the subject. The outline of work for each period of four, six, nine, or twelve weeks of the course as suggested below define the unit of the course to some extent. A more definite detailed statement, however, will be of advantage in determining the problem of granting a certain amount of credit for work completed. A thorough consideration of the unit of credit, or half-unit of credit in any subject, involves a number of items. These items are as follows:

1. *The range or scope of subject-matter that should be covered.* Take a course in seventh-grade arithmetic, for example. The problem of scope determines what topics will be included in the course. These topics may be percentage, applications of percentage, mensuration, etc. There may be a large number or relatively small number of topics included in the unit. Take elementary algebra for another example. The topics may be fractions, factoring, simple equations, etc. There is a tendency at present to cut down the number of topics in the algebra course. Whatever the number may be is determined by the solution of the problem of scope of subject-matter of the unit.

2. *The quantity of both content and formal subject-matter of the course.* The relative amount of each type of subject-matter is highly important. Most courses tend to overcrowd the content side of subject-matter. A definite statement of the approximate amount of formal material that should accompany a certain body of content matter will be

of advantage in working out the outline suggested under 13 below. The tendency to-day is to cut down the content subject-matter by restricting it to what is considered as absolutely essential and practical, and greatly to increase the amount of drill or formal material that will make possible a thorough mastery of the application of the content that is presented. Every elementary- and secondary-school course is undergoing careful, discriminating criticism, and supervisors should be able to make intelligent, accurate statements concerning the courses under their charge.

3. The body of essential facts and principles that should be thoroughly mastered and remembered. Some phases of content subject-matter are necessary in developing the usable facts and principles. They are not necessary, however, when it comes to the application of the fundamental content material of a course. Therefore a statement of the scope and quantity of content subject-matter does not give the teacher a clear criterion and definite guide as to what should be learned temporarily and what should be learned permanently. The importance of making this distinction is obvious, and the discussion of the unit of credit should include such a statement.

4. The body of habits that should result from the study of the course. The statement of habit should be specific and detailed. One of the weaknesses of educational thinking is the tendency to keep in the realm of broad generalities. For example, it is not enough to say that the study of a subject should develop accuracy. The important point is to determine the specific form in which accuracy should be manifested. It may be accuracy in adding numbers, making letters, describing objects, interpreting language, judging appropriateness of conduct, etc. The statement should indicate those forms of accuracy that the study of the subject is intended to develop. The more detailed the statements

are in regard to the habits that are to be formed through the study of any particular subject, the better and more helpful the statements will be. They will not only be more helpful to the teachers, but also more helpful to the supervisors themselves.

5. *The prerequisites to the course, in the same subject and in other subjects.* The statement of prerequisites should show, first, those subjects that are essential for one to have studied in order to profit by the study of the particular course. In addition to this, the statement should point out the helpfulness of other courses that are not required or considered as absolutely necessary to precede the particular subject. The statement should do more than merely enumerate the prerequisite subjects. It should point out the specific correlations that exist between these various bodies of related material.

6. *The courses in the same subjects to which the particular course leads.* One of the things that a pupil needs to know before he takes up the study of a specific course is whether the outcome of the study is largely within the course itself, or whether, in addition to certain immediate outcomes, there is the definite opening-up of opportunities that would be closed to one without the study of this particular subject. The statement of the lines of study or of occupations to which a particular subject leads should not be a mere enumeration of subjects or occupations, but it should point out the definite, direct connections that exist between the subject and the opportunities to which it leads. Every subject should have some educational or vocational appeal, and the definition of a unit in the subject should state the outlooks that will appeal to pupils.

7. *The shortest periods into which the subject can be organized.* One of the problems that puzzles teachers is the question of recording credit for any amount of work less than the

unit or half-unit according to the length of the course offered in the subject. Most schools will not record credit on a permanent record for less than a half-unit of work. Some schools organize their courses so that permanent credit will be recorded for periods of six weeks where they are on the quarter system, and others for nine weeks where they are on the semester system. Still other schools record permanent credit for six weeks of work even though the school is on the semester system. In all of these schools, however, the course must be completed before any of it can be counted toward graduation. The length of period for which credit may be recorded and carried forward for the student must be decided by the organization of the subject-matter. If the subject is of such a nature that a complete division or definitely organized part of the material can be completed during each six weeks of the time during which the course is offered, then it is not only feasible, but fair and just to both the pupil and the school as well, that permanent credit should be recorded for the work completed.

It is perfectly feasible in some subjects for the pupil to fail, or miss the first six or nine weeks, as the case may be, and go on successfully with the next six or nine weeks. He may even miss or lose out on the next six or nine weeks and go on successfully with the next blocks of the subject. In the end he might have, let us say, credit for the second and fourth periods of nine weeks and be lacking in the work of the first and third nine-week periods. These two blocks of work could be made up without the pupil taking the entire course over again. Whatever the possibilities are of organizing the subject so that definite parts of the unit may be completed and permanent credit given before the completion of the entire unit, the supervisor should know and should commit some definite scheme of organization of the subject-matter to permanent form for this purpose. The

organization of subject-matter into definite blocks of unified material for periods of six, nine, or twelve weeks will have an excellent effect upon the teaching of the subject. Most subjects are less effectively taught than they should be on account of lack of definiteness.

8. The length and number of class periods. By this is meant the length and number of class periods per week for which any fractional credit toward the unit and for which whole-unit credit should be given. This problem should be determined by the size of the class, the experience and skill of the teacher, the amount of personal supervision given to each pupil's work, and the number of subjects the pupils are taking. A large class taught by a skilled teacher of considerable experience can cover the subject-matter of a course thoroughly and yet more rapidly than a smaller class taught by a less skillful teacher. If the pupils each receive a great amount of individual attention from the teacher, regardless of the size of the class, then more work can be thoroughly covered in a shorter period of time than would ordinarily be required to do the same amount of work. If pupils are carrying only a normal amount of work, or if they are carrying less than the normal load, they can complete work in a shorter period of time and yet do it thoroughly. All of these considerations should be taken into account and definite analyses of actual situations should be employed in determining the amount of actual class time that, under the varying conditions, will insure a successful completion of the work.

9. The amount of time required in study preparation outside of class. This is not a problem that can be settled by traditions. It must be determined by a careful consideration of actual practices and conditions. The amount of time will vary with different pupils and with different subjects. The most important point is the development of the habit on the

part of the pupil of making a definite preparation of the lesson assigned. If the beginning lessons only require fifteen minutes of intensive study, and the pupil gets the habit of studying intensively and mastering the lesson, then a twenty-minute lesson, and a twenty-five-minute lesson, and a thirty-minute lesson, etc., may be assigned and the pupil will continue to prepare his lessons thoroughly, just because he has got into the habit of getting the assignment. Ultimately in this way a reasonable standard of time requirement for outside preparation will be established in the habits of the pupil. The reasonableness of this final standard of time should be determined by the maturity of the pupils, the nature of the subject-matter, and the length of the recitation period. The longer the recitation period, the less time required outside in the study of the lesson, and *vice versa*, relatively speaking. The relation between the length of the recitation and the length of outside study should be definitely worked out by each supervisor and stated in the form of a workable standard.

10. The amount of laboratory and recitation time in subjects requiring laboratory work. The number and length of recitation periods per week, and the number and length of laboratory periods per week, should be determined by the size of the class, the experience and skill of the teacher, the amount of individual attention given each pupil, and the number of subjects the pupils are taking. The amount of laboratory time in relation to recitation time is usually two double periods of laboratory to three single periods of recitation. The relation, however, is traditional, and in many cases results in the isolation of laboratory experiments from the class discussions. The relation between recitation and laboratory should be that of complementary devices, each of which furthers the study of the subject. Recitation and book study may at times continue for several days in order to get

a good grasp of certain laws and principles from mere mental analysis. Then a week or two of intensive laboratory work might well follow as the means of mastering the applications of laws and principles. However the relation between the two types of study devices works out, it should be on the basis of definite, consistent progress in the subject, and not on the traditional basis of so many times per week to use the one device and so many to use the other. Even the idea that laboratory work should be for double periods and recitations for single periods is traditional. Proper method, adequate devices, and efficient technique may change the whole idea of the amount of time needed for thorough laboratory work.

a. Experiments to be performed by the pupil. This is merely another item of this same problem. The number of laboratory experiments that should be required of each pupil or group of pupils must be considered. The number of such experiments in science courses has been determined almost wholly upon the basis of the number of double laboratory periods there would be during the year. The experiments should bear some direct relation to the realization of the purposes for which the courses are being taught. They should further the mastery of truths and comprehension of principles, and they should promote the development of definite habits. The number, therefore, may vary with different classes and with different individuals. The definition of the unit of the course should give the types of experiments that should be performed and range in number that would meet the varying conditions.

b. Experiments to be performed by the teacher. This is still another item of this same problem. Here, again, the number to be demonstrated by the teacher should be determined by the purposes of the course. The demonstrations should be directly related to the mastering of truths and compre-

hension of principles on the part of the pupils. They should especially relate to those phases of content material that are to be learned only temporarily as a means of developing a thorough mastery of those phases of content that are to be learned permanently. Demonstration experiments should relate to the problem of supplementing and enriching the fundamental body of content material. The exact relations that demonstrations are to bear to the various phases and aspects of the courses taught under his supervision is one of the important problems for the supervisor to solve. He should work out a definite, detailed statement of these relations and the types and relative number of demonstrations that he thinks should be employed in the teaching of the course.

11. The class of pupils for whom the course is pitched. This is usually not a difficult problem for supervisors of work in elementary schools. There are cases, however, even in the elementary schools, where different grades and sections of grades are thrown together for music, drawing, etc. The same conditions prevail in such cases in the elementary school as are found in secondary schools in the teaching of elective courses. Pupils of different ages and of different stages of school progress are thrown together in the same course. The problem is, shall the course be pitched to the pupils of lowest stage of school advancement, or shall it be pitched to those of the highest stage of school advancement? The supervisor should determine this point and indicate in the definition of the unit the exact status of the course as it is to be taught with reference to the maturity and school progress of the pupils who may be allowed to take the course.

12. The classes of pupils to whom the course is open for full or fractional credit. This is a much-mooted question to-day, especially in the secondary school. The question of giving

full credit to a senior for a language, or a history course, or a science course that ordinarily is taken in the freshman or sophomore year, has been argued pro and con for some time and the solution seems to be as far away as ever. The questions of the class of pupils for whom the course shall be open for full credit, and the pupils to whom it shall be open for fractional credit, are all part of the same problem; namely, the problem of offering a course in such a way that it will further the education of every class of pupils taking it, and of measuring the amount of development, brought about by the taking of the course, in terms of units and fractional units. The problem presents a number of difficulties, and the supervisor is very apt to pass them over by simply following the traditions of the school in which he works, or the ruling of some association that is working in the interest of uniformity of practice in dealing with this problem. However this may be, the definition of the unit of a course should contain a definite statement of this point, so that teachers may know the plan of administration at the outset.

13. The items that shall determine the pupil's record and credit in the course. The definition of the unit should contain a statement as to the relative amount of emphasis that should be given to the different items that are considered to be the most reliable evidences of the realization of the purposes for which the course is being taught. The degree of emphasis given to these items will vary with the nature of the subject. The number of the items may also vary according to the nature of the subject. In general, however, these items fall into four groups, as follows:

1. Achievement in knowledge of subject-matter.
2. Faithful, consistent effort in pursuing the study of the subject.
3. General habits in technique of organization and manipulation of subject-matter, materials, and apparatus that will be helpful in the further study of the same subject, or in the study of some related subject.

4. Specific habits of study and habits of attacking subject-matter, which show initiative and power to analyze new subject-matter and new situations, and to apply knowledge to the solution of new problems.

A course that is largely informational should place a high degree of emphasis upon item 1, above. On the other hand, a course that is largely developmental should emphasize points 2 and 4. Some courses will no doubt emphasize points 1, 3, and 4 to about the same degree. Point 2 is open to a good deal of question, but it certainly deserves most careful consideration. This point demands a decision upon the negative results of education, as well as recognition of the positive results. Points 1, 3, and 4 are not usually satisfied without point 2 also being satisfied. There are cases, however, when point 1 in a course that is very largely informational is satisfied without 2 being satisfactorily met. Then there are the most perplexing cases of all, those in which point 2 is satisfied and none of the other points are satisfactorily met.

If education is to help pupils find their capabilities, the question of giving credit for having discovered through faithful efforts the things that one cannot do successfully is pertinent. Moreover, many times the individual who finds he has ability in a certain subject may never use that attainment for any special purpose in life. The mental maturity, and the quality of character that is being developed in the individual who is learning the bitter lesson that no amount of effort and industry will enable him to attain efficiency in a certain field of subject-matter, may be vastly more valuable to society than the maturity and character that develop in the individual who attains a high mark in a subject without half trying. Why not give credit toward graduation, then, to both types of individuals, or rather for both types of results? The seeming negative outcome of education be-

comes positive when viewed in relation to the future of the individual instead of circling it round with the immediate little scholastic circle of an educational institution. Teachers need guidance on this problem of determining the final reward of the pupil; hence the supervisor should have a definite solution of the problem in reference to the administration of the courses under his charge, and he should not only commit his solution to definite form in defining the unit of credit, but he should also define the crediting of the unit to pupils.

14. The range of marks that shall be used in indicating credit in the course. First of all the standard mark should be indicated. Second, the range of marks above and below the standard or passing mark should be given. Third, the method of computing the final mark should be explained. If, for example, point 1 above is to count two thirds of the final mark, and point 3 and 4 each one sixth, then it should be so stated and the method of determining the final mark should be shown. If standard tests are to be used in determining the degree of attainment in a subject, then these tests should be indicated and instructions given as to how they are to be used in administering the final outcome of the course in determining the credit that shall be given.

15. Quantity of material to be covered in any fraction of the course. One of the most difficult problems for beginning teachers, as well as for teachers who are teaching a subject for the first time or teaching a subject with which they are not very familiar, is the problem of assigning a reasonable amount of subject-matter for each daily recitation. This definite problem of the daily recitation cannot well be got at without working out the whole course in a definite way for certain blocks of time, such as the quantity of material to be covered in each four, six, nine, or twelve weeks of the course. The supervisor should be able to do this much more accu-

rately than the teacher; therefore one of the important services that the supervisor can render to both the teachers and the pupils being taught is that of placing a detailed organization of unified blocks of subject-matter in the hands of the teachers. The teachers will acquire accuracy and insight into this phase of curriculum-making from their practice in accomplishing what the course lays out to be done. Granted that the supervisor has made a reasonable allotment of subject-matter to each period of time, then one of the critical tests of teaching efficiency is that of getting the designated work thoroughly and satisfactorily completed. Finally the teacher should be able to organize the course quantitatively on his own responsibility to meet a particular teaching situation.

2. Textbooks and their use

Instructions as to textbooks. The supervisor should give definite instructions concerning the weaknesses and the excellences of the textbooks that are to be used in the course. Beginning teachers, and teachers who are beginning the teaching of a subject, are largely dependent upon textbooks in determining the arrangement of material and the emphasis that should be given to each phase of the subject-matter. Textbooks are not often organized as courses of study, but usually as compilations of subject-matter. Nearly every text has some weakness that must be offset by the understanding and skill of the teacher in using it. The supervisor can render an important service to the teachers by showing them how to bridge over the weaknesses of the texts so that they can be used to best advantage as a means of furthering the purpose for which the course is being taught. The supervisor should also undertake to set up a standard or criterion for determining the characteristics of a high-grade or standard text for the course. Teachers are usually very

much at a loss when they are called upon to select textbooks.

The texts selected, even by State Textbook Commissions, afford ample proof that standards for judging the usability of textbooks are badly needed. The fundamental considerations that should guide in setting up such standards are as follows:

1. Is the text organized in keeping with the purpose for which the course is being taught?
2. Is the text adapted to the specific school field in which it is to be used? For example, is it a strictly high-school text, or has it been compiled with a view to filling both a high-school and junior-college demand? Too many textbooks have been prepared for commercial purposes; hence they are not the best for any one specific field.
3. Is the text organized as a device, and as such does it measure up adequately to the principles and criteria for determining the selection of devices?
4. Is the text organized in the form of clearly conceived problems of method in teaching? If so, is its organization psychologically sound as to the type or form of method problem that is adapted to the particular group of pupils that will use the text?
5. Is the text made of the kind of paper and is it printed in the kind of type that enable it to meet the sanitary standards of favorable visualization? The statement of the supervisor should give a critical résumé of the weaknesses and the excellences of the textbooks used, in the light of the above principles.

Instructions to the teachers in the use of textbooks. Textbooks may be used by pupils in preparation of lessons as the most economical agency that the pupils can use in securing valid material for the study of the particular subject. They may also be used as an economical means of getting definite data before the class during a recitation. The idea that books should be closed when pupils come to class has prevailed so long that books are often closed when

they should be open. The recitation as an activity does not demand that books be closed or open. The teacher must learn to use textbooks to the best advantage in furthering immediate ends of the recitation, and the ultimate ends for which the subject is being taught.

Relative emphasis or importance of the divisions of the course. One way of indicating the importance of one division as compared with the importance of another division is the amount of time that is allotted to each of the divisions. This criterion, however, is not an absolute one. A division may be of equal importance as compared with another and yet be more difficult to master. Therefore another way to designate the importance of the divisions of subject-matter is to set up a standard, or state the degree to which they should be mastered. For example, in composition the rules for capitalization of letters is perhaps of equal importance with the use of the comma. Both are necessary in accurate written expression. The rules for capitalization can be learned in less time than it takes to master the rules for using the comma. Therefore to designate twice as much time for mastery of the comma as for mastery of capitalization gives a fair comprehension of the relative difficulty of each of these topics, and some idea of their relative importance. A statement of the degree of accuracy to which each should be mastered would establish the conception of their relative importance.

Relative time to presentation and drill. The supervisor should definitely indicate the relative amount of time that should be given to the presentation and demonstration of content subject-matter, and the amount of time that should be given to drill. This problem is correlated with point 4, above, and goes into the distinction between content material and formal drill material. One of the weaknesses of modern education is that of overcrowding courses with con-

tent subject-matter and devoting too little time upon the practice material that would render the content material thoroughly usable. A knowledge of rules and principles should be followed by attainment of skill and accuracy in applying them. Pupils may learn clearly the meaning in a recitation of a rule that would require a week of practice to attain accuracy in its use. The correct balance between the time needed for learning how, and the time for attainment in doing the thing, is one of the critical problems involved in curriculum-making. The teacher must master this problem, and one of the most economical ways for this to be done is by following a properly organized course of subject-matter, and clearly recognizing the effective results that are secured through a proper balance between presentation of content and practice upon formal application of the content.

Sources of supplementary material. The supervisor should also indicate the amount and sources of supplementary material that will be used in connection with the course. The amount and nature of the supplementary materials that should be used in connection with any course should be determined by the usability of the textbooks, character of the subject, and the maturity of the pupils. If the textbook is an excellent one and has been compiled with a view to furnishing ample material for the study of the subject, then little or no supplementary material is necessary. Mathematics and language texts usually need considerable supplementary drill material. Histories usually need to be supplemented. Books in chemistry, physics, and most of the biological sciences need relatively little supplementing. The supplementary material in science is largely laboratory experiments. Most of the supplementary materials for the elementary school are for practice and drill, or for the purpose of enabling the pupils to use an acquired skill as a means of

enjoyment. Hence supplementary readers, supplementary arithmetics and story books are needed. High-school pupils should be able to make use of supplementary material to advantage in pursuing many of their subjects.

Notebooks and other necessary material. The kinds of notebooks and other materials that will be used in connection with the course should be made clear. Notebooks for the different science courses have been largely standardized. There is advantage, however, in selecting for particular situations, and some notebooks are more convenient than others. The supervisor having several classes in the group finds uniformity of notebook and other materials desirable. Uniformity in quiz papers and all written work makes for economy of time on the part of the teachers and supervisor. Teachers who use such selected materials soon realize their advantage, and recognize the validity of the grounds upon which they have been selected. The time saved for the teachers, by the supervisor's indicating the materials to be used, in getting the teaching situation well in hand is an important consideration.

Special assignments and reports. Finally, the supervisor should give specific directions as to assignments and reports to be given by individual members of the class. The nature of special assignments to individual pupils should be determined by the nature of the subject and the maturity of the pupils. Even elementary-school pupils can employ their reading skill to advantage in reading interesting stories, geography, and history material, etc., and give the rest of the class the results of their reading. High-school pupils should do a good deal of this kind of individual work in almost every subject. A definite plan of having such reports given, and of insuring that the class profits by the reports, is essential. The supervisor should be able to give the teachers an efficient body of devices and technique for doing this

kind of work. The teacher then will soon be able to modify the plan to suit varying conditions.

Chapter summary. The selection and organization of subject-matter in a course should be worked out in definite form. This should show: The purpose for which the subject came into existence, and why it is being taught; the changes going on in the subject; unit of credit in the course, involving content, outcomes, prerequisites, courses to which prerequisite, time in length of class periods, study preparation, and number of weeks, class of students for whom adapted, to whom open for full and partial credit, and standards for grading and range of marks; quantity of material to be covered each four, six, etc., weeks; weaknesses of textbooks; instructions on use of textbooks; relative importance of each division of the course; relative amount of time given to content material and to drill; amount and sources of supplementary material; notebooks and other materials needed; and directions on special assignments.

CLASS EXERCISES

1. Select two fundamental elementary-school subjects, and write out a statement of the purpose for which each subject came into existence, and the purpose for which each is now taught in school.
2. Select two required high-school subjects, and state the purposes for which they came into existence, and the purposes for which they are now taught.
3. Select one fundamental elementary-school subject, and state the changes that are going on in the subject, and the reasons for the changes.
4. Select one required high-school subject, and state the changes that are going on in the subject, and the reason for the changes.
5. Make a topical outline for an up-to-date sixth-grade arithmetic course.
6. Make a topical outline for an up-to-date elementary algebra course.
7. Take one topic in sixth-grade arithmetic, and outline in detail the content material and the formal-drill material.
8. Take one topic in the elementary algebra course, and outline in detail the content material and the drill material.

9. Make an outline of the essential facts and principles that should be mastered in sixth-grade arithmetic.
10. Make an outline of the habits that the sixth-grade arithmetic course should develop.
11. Make an outline of the essential facts and principles that should be mastered in elementary algebra.
12. Make an outline of the habits that the elementary algebra course should develop.
13. State definitely the prerequisites of the elementary algebra course.
14. State definitely the courses to which elementary algebra is a prerequisite.
15. Give reasons why credit should or should not be given for periods of four, six, nine, twelve, and eighteen weeks in sixth-grade arithmetic; in elementary algebra.
16. Compare the length of class periods and the number of periods per week that would be necessary for an elementary algebra class of thirty under an excellent teacher, with that of a class of ten under a beginning teacher.
17. Estimate the amount of time that would be required, in outside preparation of an elementary algebra lesson, in mastering the first content assignment in simple equations under the expert teacher with thirty pupils in the class.
18. Make a list of the laboratory experiments that you think ought to be required in the first nine or eighteen weeks of the course in physiology, or general science. Estimate the time it will take each pupil or pair of pupils to work out these experiments.
19. What range of pupils would you permit in a beginning language course for equal credit? Why?
20. Criticize the list of items given in the chapter for grading the attainment of pupils, as to practicability of measurement, completeness, or excessiveness of details.
21. Criticize the range of marks suggested in the chapter, and give concrete illustrations in which the range below passing would have been of decided advantage.
22. Criticize the suggestions on judging the value of a textbook, as to practicability and completeness.
23. Select a recent textbook in one of the fundamental elementary-school subjects, and make out a detailed set of instructions to teachers in the use of the book.
24. Select a recent textbook in a high-school subject, and make out a detailed list of instructions in the use of the book.
25. Make a topical list of the content subject-matter for the first nine weeks of a course in plane geometry, and state the amount of time that should be given to the presentation of each topic and the amount of time given to drill.

26. Make a careful outline of the amount and sources of supplementary material that would be needed, in using any particular American history text, for the first month's work in a high-school class.
27. Make an outline of the essential characteristics of a notebook for use in a general science course. In a history course.
28. Make a general outline that you would use in giving pupils instructions in the preparation and presentation of special assignments.

CHAPTER XI

DEVICES THAT ILLUSTRATE THE REMAINING PRINCIPLES OF METHOD (*continued*)

II. Demonstration Teaching and Directed Observation

1. Demonstration teaching

The purpose. The chief purpose of demonstration teaching is to exemplify the use of sound method, show what devices are effective and how to employ them, and to exhibit the results of good technique. Demonstration teaching should also be done for the purpose of experimentation. Critic teachers and supervisors should attempt to discover new applications of the laws of learning, so that ultimately the profession of teaching will be guided by concrete illustrations of what has and can be done to make education more effective. The greater part of demonstration teaching, however, should be for the purpose of exhibiting so much of the science and art of teaching as has thus far proved sound and worthy of mastering. Such teaching should afford excellent opportunities for the beginning teacher, and for the teacher beginning the teaching of a subject that is practically new to him, to go through the mental theoretical performance of teaching under the stimulus of the actual expert teaching performance that is going on. Demonstration teaching can be made a very effective device, but it should be very carefully planned and conducted.

The following suggestions are based upon actual practice and have been found to be effective.

Aim of the lesson to be seen. Meet the group of teachers

who are to do the observing of the demonstration, before the recitation begins, and set forth clearly the method, devices, and technique that are to be demonstrated. See that the group have a definite outline of the points that are to be exhibited and a clear comprehension of their significance. In other words, have a mental, theoretical rehearsal of the pedagogical play that is to be staged for their benefit. This point is a very important one. The observer who is not left groping in the dark of his unfamiliarity with pedagogical procedure will receive vastly greater benefit from his observations. The observer who knows what is coming has some chance of keeping pace mentally with what is really going on, and in consequence gets a unified impression of the demonstration. He should be required to check up mentally his recognition of the points that were to be demonstrated, and even to make some notation of the points on the outline. If for any reason the demonstration should fail to include all of the points, the observer should be able to account for the omission. In order to do this effectively and systematically the next point is suggested.

Taking notes. Require the observers of the demonstration to take careful and rather complete notes of the actual performance of the demonstration. These notes should be complete enough to furnish the basis of a thorough discussion of the demonstration. They should describe the performance fully enough to enable the observer to point out the part of the performance that demonstrates a particular principle, device, or point of technique as the case may be. These notes should be checked with the outline of points that were to be demonstrated to see how successfully the demonstrator carried out his announced plan.

Critical discussion afterward. Meet the group after the demonstration for a thorough discussion of the points as they have them identified in their notes. This discussion

should be a critical one. The observers should be critical in checking up their notes to see how much they are in agreement, and the supervisor should critically check the notes against the actual steps of the demonstration.

If the above suggestions are put into practice, they insure two abstract and one concrete intensive mental performance of the pedagogical play or procedure. Such intensive practice soon develops keenness of insight, alertness of recognition, and completeness of comprehension of a particular pedagogical situation. The number of group meetings necessary for carrying on such intensive demonstration studies may be cut down by having the period for discussion long enough so that the notes taken on the past demonstration and the outline of the next demonstration may both be discussed quite thoroughly.

Examples of the process. The following examples will illustrate the process of demonstration teaching:

I. Outline of a demonstration lesson in elementary arithmetic.

1. *Purpose of the lesson.* The purpose of the lesson was to teach the pupils how to multiply one fraction by another fraction.
2. *Purpose of the demonstration.* The purpose of the demonstration was to show:
 - *a.* How the purpose of the lesson may be realized by presenting the subject-matter in the form of an inductive problem.
 - *b.* The effectiveness of material devices that appeal to the sense of vision.
 - *c.* The effectiveness of material devices that guide the mental processes of the pupils in the selection of relevant facts and ideas.
 - *d.* The effectiveness of definite technique in presenting subject-matter in the form of an inductive problem. Adequate technique involves:
 (1) Selection of representative examples or cases.
 (2) Vividness of illustrations.
 (3) Ampleness of cases considered.

(4) Thoroughness of practice in analyzing cases.
(5) Definiteness of statement of the generalization or rule.

e. The effectiveness of definite technique in employing both material and intellectual devices. Such technique involves:
(1) Variety of forms.
(2) Thorough preparation of forms.
(3) Wise choice of form or forms for any particular case.
(4) Skill in manipulation of forms.

The above outline was thoroughly discussed until the teachers had a definite conception of what the demonstration should exhibit if it at all adequately realized the purpose of the lesson and the purpose of the demonstration. Careful notes were taken on the demonstration lesson, and these were made the basis of a follow-up discussion.

II. Outline of a demonstration lesson in plane geometry.

1. *Purpose of the lesson.* The purpose of the lesson was to teach the pupils the fundamental definitions on pages 1 and 2 of Schultze and Sevenoaks' *Plane and Solid Geometry.*
2. *Purpose of the demonstration.* The purpose of the demonstration was to show:
 a. How the purpose of the lesson may be realized by presenting subject-matter in the form of a deductive problem.
 b. The effectiveness of material devices.
 c. The effectiveness of intellectual devices.
 d. The effectiveness of definite technique in presenting the subject-matter in the form of a deductive problem. Adequate technique involves:
 (1) Beginning with clear statement of each definition or generalization.
 (2) Thorough analysis of each definition or generalization.
 (3) Use of typical illustrations of the application of the generalization.
 (4) Ampleness of typical illustrations.

(5) Thoroughness of practice in making applications of the generalizations.

e. The effectiveness of definite technique in employing both material and intellectual devices. Such technique involves:

(1) Variety of forms.
(2) Thoroughness of preparation of forms.
(3) Wise choice of form or forms for any particular case.
(4) Skill in manipulating forms.

The above outline was handed in in the same way as the one previously given, and was discussed in a similar way.

Section summary. Demonstration teaching should have a definite goal. This goal should be clearly known by the observers before the performance begins. The observers should take careful notes during the performance. These notes and the performance should be thoroughly discussed with the observers by the demonstrator, after the performance is completed.

CLASS EXERCISES

1. Make a detailed assignment to a group that is to observe a demonstration lesson in sixth-grade geography, which you are to present.
2. Make a detailed assignment for the observation of a demonstration lesson in elementary algebra.
3. Make a definite plan for conducting the discussion of the group's observation notes on each of the above assignments.
4. Criticize the illustrative assignments given in the chapter, as to organization, completeness or excessiveness of details, and practicability.

2. Directed observation of teaching

Directed observation. The demonstration teaching that has just been described is one form of directed observation. Another form of such observation is that in which the teachers are sent to observe the work of an expert teacher or the teaching performance of one of their own number. This

form of observation should be carried on somewhat differently from the directed observation of demonstration lessons. Systematic observation of this character may be carried on for several purposes. The plan for carrying it on and the specific directions to the teachers who do the observing will vary, according to the purpose or purposes for which the observing is being done. Various purposes and suggestive outlines of directions, which have been taken from actual practice, are given below.

a. Preliminary observation

Observation for a few days for the purpose of becoming acquainted with the class and its work and its surroundings before taking charge of it to teach.

This type of observation is usually carried on in training schools in connection with practice teaching. The assignment for such observation is ordinarily of the following character:

OBSERVATION ASSIGNMENT

1. Study the names of the pupils in the class.
2. Note the seating arrangement.
3. Note the physical conditions; that is, ventilation, temperature and humidity, lighting, etc.
4. Note personal characteristics of pupils and their general tendencies.
5. Observe the general spirit and procedure of the recitation.
6. Make special note of conditions that you think should be improved and submit your plans for making the improvements.

b. Critical observation

Observation for the purpose of making a critical study of the teaching and management performance of any teacher, whether expert or otherwise.

This type of observation is quite different from the ob-

servation of demonstration lessons and different from that given above. This type is used in connection with method classes in training schools, and in public schools when teachers are sent to visit other schools. The assignment for this type of observation varies according to the situation in which it is carried on. The work is important, and requires a careful organization and direction of the observing group in order to make its efforts effective. Assign only a few obvious aspects of the teaching and management performance, at the outset of such observation, at any one time.

The following suggestions are the result of experience, and may be helpful in developing insight and skill in making a critical study of the work of a teacher.

Observation Assignment (I)

(*Note.* Write the name of the school, grade, name of teacher, date, and your name. Hand your notes in as you leave the room.)

1. Note the physical conditions of the room.
 - *a.* Ventilation.
 - (1) Satisfactory. How secured?
 - (2) Unsatisfactory. Could it be made satisfactory? How?
 - *b.* Temperature and humidity.
 - (1) Satisfactory. How secured?
 - (2) Unsatisfactory. Could it be made satisfactory? How?
 - *c.* Lighting.
 - (1) Satisfactory. How secured?
 - (2) Unsatisfactory. Could it be made satisfactory? How?
 - *d.* Condition of walls and ceiling.
 - (1) Papered or painted.
 - (2) Clean or dingy.
 - (3) Pleasing effect or displeasing.
 - (4) Pictures and other decorations.
 - *e.* Condition of floors.
 - (1) Oiled or unoiled.
 - (2) Clean or littered.

f. Blackboards.
- (1) Amount of space: — Adequate for the room or inadequate.
- (2) Light good on boards from all parts of room or otherwise.
- (3) Good surface and usable order or otherwise.
- (4) Clean and in good usable order or otherwise.
- (5) Clean chalk trays or otherwise.
- (6) Clean erasers or otherwise.

g. Condition of pupils' desks.
- (1) Undamaged or otherwise.
- (2) Rickety or substantial.
- (3) Adapted to size of pupils or otherwise.
- (4) Arrangement in relation to light and blackboards.

h. Apparatus.
- (1) Maps: — Well placed or otherwise, and condition.
- (2) Globes: — Well placed or otherwise, and condition.
- (3) Charts: — Well placed or otherwise, and condition.
- (4) Supplementary books: — Well placed or otherwise, and condition.
- (5) Dictionaries: — Well placed or otherwise, and condition.
- (6) Other items of apparatus-placement, and condition.

i. Displays of work.
- (1) Kinds.
- (2) Placement.

j. Pupils.
- (1) Number in room.
- (2) Races and number of each.
- (3) Number of each sex.
- (4) Clothing: fitness, adequacy, cleanliness.
- (5) General appearance: cleanly, healthy.

This assignment contains a number of items, but they are simply the details of the physical conditions under which the teaching is going on. An alert observer should be able to check up on all of them during a fifty-minute period of observation. A good device for saving time in checking up these details, and thus stimulating the alertness of the

observer, is a printed form with blank spaces opposite each item, so that the results of the observations can be noted briefly and quickly.

Two plans for this assignment. Two plans have been followed in doing this assignment in observation. One plan is to make the assignment for the first one or two days that the observers visit a room. Usually a course in systematic observation includes a number of regular visits to several different grades or classes, made in some definite order. For example, the observation class in an elementary training school will probably visit a primary grade for three weeks, an intermediate grade for three weeks, an upper grade for three weeks, and a rural school three weeks. If the above assignment is given for the first two days in each room visited, the class would make eight such critical observations of the physical conditions that exist in the various rooms.

A second plan is to visit each room in succession for probably two days to each room, the entire time for the first eight days of observation being devoted to the above assignment. This plan has some advantages, but many disadvantages; hence it is not commonly used. The plan favors rapid habit formation in the observation of physical conditions. It does not link the observation so readily, however, with the effect of these conditions upon the recitation work that would be observed during the working-out of the subsequent observation assignments. The plan may also involve administrative difficulties that are not easy to offset. For instance, the matter of transportation may not be as readily met as it can be when the class goes regularly to the same school for as long a period as it will visit that particular school. The matter of seating equipment may also be more advantageously handled by the first plan.

Critical evaluation; judgment-forming. When the first plan is followed, the discussions that are held on the physi-

cal conditions of each of the succeeding rooms visited should involve comparison of the different physical conditions observed, and the corresponding effects upon the class work. The habit of critical evaluation of what is observed is just as important as the habit of alertness in seeing many details in a given situation. In fact, unless such a habit is formed the habit of alertness in seeing existing things will be of little value. The habit of taking everything in quickly and accurately, however, must come first in order that the observer may have the basis for exercising critical judgment-forming. If the observer does not see important details in the physical situation, he has very little to evaluate. The more he can see in each situation studied, the more basis he has for making valid comparisons, and the better opportunity he has for relating the observed items to the items of subsequent observation.

The advantage of starting observation work with this type of an assignment is that the physical conditions are the most obvious and most readily observed. Then, too, the observers are doing a type of observation that is more or less familiar, and in which they have had considerable general practice. The matter, therefore, is relatively simple for them so far as seeing things is concerned, and they can devote most of their energies to acquiring technique and skill in writing down the things that they observe. This point is a very important one. The use of the printed device suggested above, however, facilitates practice and the technique of taking brief accurate notes is soon fairly well acquired.

OBSERVATION ASSIGNMENT (II)

(*Note.* Write the name of the school, grade, name of the teacher, your name, and date. Hand your notes in as you leave the room.)

1. Note the devices employed by the teacher in the presentation of the lesson; classify them as indicated.
 a. *Physical devices.* Note each device and the extent to which it was used.
 (1) General.
 (*a*) Blackboard.
 (*b*) Books.
 (*c*) Writing materials, etc.
 (2) Special.
 (*a*) Particular objects.
 (*b*) Special drawings, charts, graphs, etc.
 b. *Mental devices.* Note each device and the extent to which it was used.
 (1) Lecture.
 (2) Questions.
 (3) Objective presentation of facts.
 (4) Correlations, etc.
2. Critical comments.
 a. Were the physical devices well chosen, and were they used too much or too little?
 b. Would you suggest physical devices that were not used, but that might have secured better results?
 c. Were the mental devices well chosen, and were they used too much or too little?
 d. Would you suggest mental devices that were not used, but that might have secured better results?
 e. Were all devices thoroughly prepared and ready for use at the right time?

Note. If the question device is used, write down as many of the questions in complete form as possible.

Use of this assignment. The note-taking on this assignment may be greatly facilitated by placing printed forms, with ample blank space under each type of device, in the hands of the observers. The more time and energy the observer can give to seeing things, and to writing them down under proper headings with the least amount of actual writing, the better. The observers will see more and get it down in more usable form than they can possibly do if they have

to make their own headings and classifications in the midst of the activity of observing and recording their observations.

This assignment logically follows the assignment of the first type. Devices are more obvious and more readily observed than the items of the teaching performance that are given in the next assignments. If plan one as outlined above is followed, then the assignment on devices will be given about the second or third visit to each room, and the same assignment continued until the class acquires insight, accuracy, and skill in observing the use of devices in teaching. At least four or five assignments of the second type should be given for each room visited.

OBSERVATION ASSIGNMENT (III)

(*Note.* Write the name of the school, grade, the teacher's name, your name, and date. Hand your notes in as you leave the room.)

1. Note the technique of the teacher. Note each item of technique that was prominent and when possible note the number of times practiced. The following items are suggestive. Extend the list as the situation demands.
 - *a.* Repeating answers of pupils.
 - *b.* Asking too many questions, or too few.
 - *c.* Failing to state questions clearly, and in the fewest possible words.
 - *d.* Excellent statement of questions.
 - *e.* Clear explanations, or the opposite.
 - *f.* Naming the pupil who is to answer before asking the question.
 - *g.* Asking question first and then naming pupil who is to answer.
 - *h.* Not giving sufficient time for thinking out the answer or discussion before naming the pupil who is to recite.
 - *i.* Automatically saying "all right," "correct," "yes," or any set indication that the answer is satisfactory.
 - *j.* Indicating the answer by the form of the question.
 - *k.* Breaking the subject-matter up into too small units.
 - *l.* Not breaking the subject-matter up into small enough units.

m. Teacher's voice: Pitch, modulation, quality, power.
n. Teacher's attitude: Enthusiastic, sympathetic, or opposites.
o. Teacher's bearing: Natural, dignified, self-reliant, or opposites.

2. What is the effect of any particular item of technique upon the class and the recitation?

Use of this assignment. The use of a printed form for this type of observation assignment is highly essential if the observers are to get anything down systematically and accurately. The mere writing-out of the various headings or items of technique that may be observed during forty or fifty minutes would take all of the observer's time, so that little or no check could be made of the recurrence of items that should be noted accurately. Accuracy and fairness should be insisted upon. Sometimes it is best to assign only a part of the above items at a time, and so develop a sensitiveness to some of the best and some of the worst forms of technique. All of the above and possibly more items should be included in the assignments before this type of assignment is discontinued. At least five or six assignments for each room visited should be made before taking up the next type of assignment.

The discussions that are held on this type of assignment should lay a great deal of stress upon the results of particular items of technique, as shown by the reactions of the pupils. The fact should be made patent that an item of technique in itself is neither good nor bad, but that its use in a particular connection makes it good or bad. Observers should be cautioned and trained to discriminate accurately between effective and ineffective use of the same item of technique.

OBSERVATION ASSIGNMENT (IV)

(*Note.* Write the name of the school, grade, name of the teacher, your name, and date. Hand your notes in as you leave the room.)

1. Note the application of method to the organization and presentation of subject-matter. Indicate as fully as possible the organization under the appropriate headings.
 - *a.* Inductive type of organization.
 - (1) Number of cases presented. — Note as many complete cases as possible.
 - (2) Representativeness of cases.
 - (3) Vividness of appeal of cases.
 - (4) Ampleness of material.
 - (5) Thoroughness of practice.
 - (6) Clearness of generalization.
 - *b.* Deductive type of organization.
 - (1) Generalization presented.
 - (2) Typical illustrative cases.
 - (3) Ampleness of cases.
 - (4) Thoroughness of practice.
2. Critical comments.
 - *a.* Was the type of organization selected well adapted to the subject-matter of the subject?
 - *b.* Was the type of organization selected well adapted to the mental maturity of the class?

Use of this assignment. The items on this assignment are not so readily observable in the recitation as are the items of the previous assignments. For the first two or three observation assignments of this type, the observers should have the teacher's assignment of subject-matter and the plan for its presentation before they visit the class. This will give them an opportunity to study the application of method that is intended by the teacher. Then the period of observation can be devoted to observing critically the application of method that is actually made in the recitation. Finally, however, the observers should be able to analyze the recitation performance accurately enough to be able to say definitely that the one or the other type of organization of subject-matter was employed throughout, or that one type was used in part of the recitation and the other type was used in another part.

Purpose and use of these observation assignments. The purpose of the above types of observation assignments is obvious. The aim is to develop skill in observing groups of items that become more and more difficult of observation. It also aims at attacking specific problems in the teaching performance. The ability to separate the method employed, from the devices and the technique, is highly important. Practice in giving attention to these different aspects of the teaching performance in turn will finally develop the ability to study all three in parallel during a recitation and to take accurate notes upon them. The discussions on these assignments should seek to develop constructive criticisms and positive suggestions. Observers should get the point of view that to see what takes place is not enough, but that one must see how improvement could be made.

The following rules as to the use of observation assignments will prove helpful if followed:

1. Continue each assignment of the above sort until the observers have acquired skill in observing these aspects of school work.
2. Gradually combine these groups of points into larger groups until the observers are able to note accurately all the aspects of teaching and management that are exhibited during their visits.
3. Require detailed notes to be written during the period of observation and handed in before leaving the room.
4. Meet the group for a discussion of their notes on the same day. The director of the observation should go over the notes carefully before the discussion period, and be prepared to discuss the various types of errors and weaknesses in skill of making critical observations that the notes reveal. Constructive suggestions as to how these defects can be remedied should be made. In order to do this effectively the director or supervisor of the observation work should follow the next suggestion.

5. Accompany the class on every observation visit that is to be discussed at a later period. The director should observe the same performance, and make accurate mental and written notes of the things that the class has opportunity to observe. This is the only accurate basis upon which a constructive discussion of the observation made by the class can be carried on.

3. Observation to evaluate teaching

Another phase of observation is that in which teachers study the total teaching performance for the purpose of writing a critical evaluation of it. This type of observation is a test of the effectiveness of the work that has been done under the preceding type. The practice of first observing small groups of points, and later of observing larger and larger combinations of these groups until finally all the points in teaching and management that are important are included in each assignment, will finally develop a degree of mental alertness and accuracy that is dependable in taking in all the important points exhibited in any teaching performance. As soon as this skill has been developed to a satisfactory degree of accuracy, then the teacher is ready to receive training in evaluating the teaching and management performance.

Prerequisites for this type of observation. The observer cannot make an accurate and fair evaluation of a teacher's work without knowing what purpose the teacher has in mind and how he plans to accomplish the purpose. The observer should not only know the teacher's purpose and plan for accomplishing it, but he should also have a thorough knowledge of the subject-matter that the teacher expects to employ in the recitation that is to be observed. Therefore, in order to carry on this type of observation so as to develop skill and fairness in evaluating the worth of a teacher's classroom performance, the observer should be required to:

EVALUATION OBSERVATION OUTLINE

1. Study the subject-matter of each lesson that is to be observed.
2. Have a copy of the teacher's lesson plan for the recitation that is to be observed, long enough before the recitation to make a careful study of it.
3. Take notes on the recitation under the headings:
 - *a.* Application of method or form of subject-matter organization employed. (That is, inductive or deductive.)
 - *b.* Devices used.
 - (1) Physical: skill or lack of skill in manipulating each device.
 - (2) Mental: skill or lack of skill in manipulating each device.
 - *c.* Technique, or habit practiced.
 - (1) Right habits: number of times each was used and effect upon the results of the recitation.
 - (2) Wrong habits: number of times each was used and effect upon the results of the recitation.
 - *d.* Critical comments.
 - (1) Did the recitation accomplish the purpose stated in the lesson plan?
 - (2) What knowledge was definitely acquired?
 - (3) What habits were positively furthered?
 - (4) Was the lesson plan followed completely? If not, were the changes in procedure justifiable?
 - (5) What could the teacher have done to render the recitation more effective?
 - (6) In what phase of teaching was the teacher strongest?
 - (*a*) Application of method?
 - (*b*) Selection and manipulation of devices?
 - (*c*) Technique?
4. Rank the performance as a whole, based upon the specific acts of the teacher and the reactions of the pupils.
 - *a.* Superior.
 - *b.* Excellent.
 - *c.* Good.
 - *d.* Fair.
 - *e.* Poor.
 - *f.* Very poor.
5. Hand the written notes on the whole procedure in before leaving the room.

Use of this type of observation. The director or supervisor should visit the same performance that the class of observers visits, and make a critical evaluation of the recitation according to the above suggestions. The group should meet for discussion of the notes they have taken and handed in. The supervisor should go over these notes before the discussion period, and prepare a constructive discussion of their excellences and their defects. If possible, the teacher whose work was observed should be present at this discussion. The teacher observed should have an opportunity to defend his procedure when he feels that the criticisms are unjust or in error. He should have the opportunity to profit by valid suggestions and intelligent comments on his work. Often there are conditions and influences that the teacher cannot control and for which he is not responsible. These conditions and influences may go far toward defeating the most skillful teaching performance. The teacher should not be judged without opportunity to give information of this character, for observation may not reveal these factors.

The critical test of the ability of teachers to observe teaching discriminatingly is the accuracy and completeness of the notes they take on all the observable aspects of teaching and management exhibited in a single recitation. The thoroughness with which they classify the observed items exhibited, under the distinct aspects of the situation — that is, under physical conditions, devices, technique, and method — is a fair criterion of the intelligence with which the observing is carried on. A last test of the results of this observation training is the ability of the observers to discover the particular phases of the teaching performance that are responsible for the success or failure of the recitation, so far as it can be determined on its face. Special emphasis should be given to this item in the critical comments that are required in the above outline.

Section summary. Directed observation should develop skill in evaluating teaching performances. Such observation should begin with a study of a few of the most obvious physical aspects of the classroom, and progress to a study of the most obvious aspects of the teaching performance, then to the less obvious, then to the least obvious aspects, and finally to a study of all aspects of the classroom and the teaching performance, during each observation period.

The plan of administration may be to carry the study of each type of assignment through all the classrooms that are to be visited before taking up the next type, or it may be to take up each type of assignment in one classroom before going to another room. The assignment should be clearly understood by the observers before the visit to the recitation is made. They should take detailed notes on the assignment during the period of observation and these notes should be discussed with the observers after the observation period.

CLASS EXERCISES

1. Make an outline of the observation assignment you would give a teacher to help him in becoming acquainted with a particular class and classroom.
2. Make a blank that would be economical for observers to use in noting the physical aspects of a teaching situation. Study critically the outline for such an assignment given in the chapter, and try to improve upon it in making the blank.
3. Make a similar blank for use in noting the devices employed by the teacher in a particular recitation.
4. Criticize the assignment outline given in the chapter for observing devices used, as to practicability, completeness or excessiveness of details, formalism, and organization.
5. Make a blank form that will be economical for use in noting the technique of the teacher in a teaching performance.
6. Criticize the outline given in the chapter for observing technique, as to practicability, completeness or excessiveness of details, and organization.
7. Make a blank form for use in noting the principles of method used by the teacher in the presentation of a lesson.

8. Criticize the assignment outline given in the chapter for the observation of method, as to organization, and completeness or excessiveness of details.
9. Make a blank form that will include the fundamental items from all the types of observation assignments made in the chapter. Make a list of instructions that will guide the observers in using the blank, systematically and economically, in taking observation notes on all the aspects of the teaching performance during a single recitation performance.
10. Make an outline of the procedure you would follow in discussing the observation notes of the various types with the observers, after the observation period is over.
11. Criticize the outline given in the chapter for making an estimate of the efficiency of the teaching performance that is observed, as to organization, completeness or excessiveness of details, and possibility of accuracy in judging each item.
12. Make a plan for conducting a discussion of the observers' evaluation of the teacher's efficiency, with the teacher being criticized present and participating in the discussion.

4. Emergency demonstration teaching

Use and purpose of this. The main idea in directing the work of teachers is to anticipate the pitfalls and instruct the teacher in the science and art of avoiding them. If this idea is carried out thoroughly, the further development of the teacher can be accomplished through corrective suggestions. As a rule, therefore, the teacher should be undisturbed throughout the recitation. There are times, however, when the supervisor should, in the interest of the teacher and in the interest of the class being taught, take up the recitation in its midst and conduct it for a part or for all of the remainder of the period. Such cases should be very adroitly and diplomatically handled, so that the class will be safeguarded in its learning and so that the teacher will be prevented from making serious errors. The teacher must be enabled, however, to sustain his dignity before the class and to retain authority over the situation.

The two purposes of this type of demonstration teaching should be held clearly in mind by the supervisor, for they

determine when the situation warrants the interruption of the teacher's procedure. A brief description of typical cases will bring out both the sorts of situations that are meant and the technique of making the transition of the leadership or teaching from the teacher to the supervisor.

Example 1. A pupil in a plane geometry class was trying to apply a theorem to the solution of a practical problem. He was experiencing difficulty in getting the data organized into the correct series of steps that would lead to a valid conclusion. The teacher attempted to help him by asking questions concerning certain facts and principles that were involved in the solution. The pupil continued to flounder around and was obviously not getting any help from the teacher's questions and suggestions. The supervisor recognized both the difficulty of the pupil and the difficulty of the teacher. Time was being lost, and neither pupil nor teacher was gaining any ground in the solution of the respective problem. The pupil was trying to learn the connection between the practical situation presented in the problem and the principles of geometry that he had learned. The teacher was trying to discover the difficulty of the pupil and to find the best line of procedure in guiding his thinking so he would correct his errors. The supervisor realized two responsibilities; namely, that of helping the pupil to learn the thing he was trying to master, and to help the teacher to discover why she was not succeeding in her attempts to extricate the pupil from his difficulties.

The supervisor allowed the situation to develop to the point where both teacher and pupil realized they were not succeeding. He showed by his attitude that he was interested and in sympathy with both teacher and pupil. Finally he said, "Miss B——, may I ask L—— a question?" The teacher gladly consented. Then the supervisor by a series of questions led the pupil to visualize the parts of the

figure that had been used in developing the facts and principles of the particular theorem. He then directed the attention of the pupil to the clear visualization of the practical situation presented in the problem. As soon as the pupil visualized the two situations clearly, he could readily recognize that the same logic applied in both cases, and the solution of the particular problem was easily reached.

The result for the pupil of the intervention of the supervisor was an intensive effort that netted him a definite mental gain. The result for the teacher was that she recognized that her failure was due to directing the attention of the pupil to the logic of the two situations, without first having the visualization of them clearly established as the basis for the application of the proper logic. In other words, the pupil learned something about applying geometrical principles to practical situations, and the teacher learned something about how to teach a pupil to learn how to apply principles to practical problems. As soon as the pupil had arrived at a clear solution of the problem upon which he was working the supervisor dropped into the background, and the teacher went on with the recitation.

Example 2. A pupil in a beginning Latin class was called upon to translate an English sentence into Latin. The sentence involved a difficult construction in the indirect discourse. The teacher by suggestions and questions led the pupil to work out a translation that she accepted. The translation, however, contained a rather serious error. The teacher was evidently accepting the error because she did not know that it was an error. The construction in point would come up in subsequent lessons, hence the supervisor hesitated a moment as to whether or not he should interfere. The wrong impression upon the minds of the pupils was likely to be difficult to counteract if they were allowed to take the case in hand as a good illustration of the particular

construction. The supervisor quickly decided that the situation demanded correction then and there. Since the teacher was proceeding, through lack of accurate knowledge of the subject, to teach something that was incorrect, the situation was somewhat embarrassing. The emergency, however, seemed to warrant running the risk of embarrassing the teacher and even the risk of making the pupils doubt her reliability in the future.

The supervisor said, "Miss B——, may I hear the translation of that sentence again? I am not sure that I heard it all the way through, particularly that expression" — naming the expression — "on which I have to watch myself very closely to keep from getting it wrong." This statement put pupils and teacher on guard to study the difficult part of the sentence as it was translated. It also made the pupils feel that even for the teacher to make an error on that construction was no reason to condemn her, for the supervisor admitted the probability of almost any one, no matter how expert, making a slip in trying to express it in Latin. The supervisor then proceeded to raise questions about the construction, and soon led both teacher and pupils to see what was correct. After the point seemed to be satisfactorily settled, he suggested that they all watch for that particular construction and see how many examples of it they found in the succeeding lessons. He then dropped into the background, and the teacher went on with the recitation.

Situations that justify supervisory interference. The situations that seem to justify the interferences on the part of the supervisor are those in which the pupil is not learning, and the teacher is not learning how to help the pupil to learn, and those in which the teacher is teaching something that is incorrect. In the first type of case the teacher was not lacking in knowledge of the subject, but was lacking in insight and skill in teaching. In the second type of case the pupils

were learning and the teacher was succeeding in helping them to learn, but the thing being taught was wrong. These two types cover practically all the emergencies that will arise. The third type of case necessarily would be a combination of these two; namely, a situation in which the teacher was unsuccessfully trying to teach something that was wrong, but was not succeeding on account of not realizing just what the mental difficulties of the pupils were. The pupils in this case would not be learning the thing they were trying to learn, because they would be failing to carry on the proper mental activities that would be involved in learning even the incorrect form of subject-matter. Such a case would not involve any different procedure on the part of the supervisor from that given above.

The supervisor should know what the assignment is and the teacher's plan for teaching that assignment before he visits the recitation, if he is to be in a position to judge wisely as to how long he should continue the emergency demonstration teaching. If the crucial point is not likely to be seriously involved throughout the remainder of the recitation, as was the case in the illustrations above, the supervisor can readily drop into the background and let the teacher go on alone. In fact, the supervisor really has appeared in the attitude of a member of the group, and the teacher has remained in his position as leader so that his authority and control over the class has not been interfered with. If, however, the crucial point is seriously involved in the remainder of the recitation, and the supervisor feels that he will likely have to keep breaking in with suggestions in order to help both teacher and pupils, then the supervisor had better teach the rest of the lesson.

Section summary. The supervisor should take the teaching situation out of the hands of the teacher only when a real emergency exists. Such an emergency exists when the

pupil is not learning, and the teacher is at a loss to know what to do to help him; and such an emergency exists when the teacher is succeeding, but is teaching something that is incorrect. The supervisor should handle the situation in such a way as to uphold the dignity and authority of the teacher, and to strengthen his future work.

CLASS EXERCISES

1. Give five cases, from your own experience, in which there was a decided gain to pupils and to the teacher through the emergency teaching of the supervisor.
2. Give five cases, from your own experience, in which there was a decided loss to pupils and to the teacher through the failure of the supervisor to intervene in the recitation with emergency teaching.
3. Give five cases, from your own experience, in which there was a decided loss to pupils and to the teacher through the untimely emergency teaching of the supervisor.
4. Give two or more illustrations, from experience of the emergency situation in which the teacher was at a loss to know what to do to help the pupil learn.
5. Give two or more illustrations, from experience, of the emergency situation in which the teacher was successfully teaching something that is incorrect.
6. Give two or more illustrations, from experience, of the emergency situation in which the teacher was trying to teach something that was incorrect, but was not succeeding.
7. Give an example of an emergency situation in which the supervisor should take charge of the recitation for only a short time.
8. Give an example of an emergency situation in which the supervisor should take charge of the recitation until the end of the period.

CHAPTER XII

DEVICES THAT ILLUSTRATE THE REMAINING PRINCIPLES OF METHOD (*continued*)

III. Directed Teaching and Supervised Study

1. Directed teaching

What this involves. The direction of actual teaching work of student teachers and regular teachers, means direction of all the activities that are involved in preparing for and conducting each daily recitation that the student or regular teacher is to hold. Hence the supervision of teaching must begin before the teacher enters the classroom to teach, as well as to direct the work of the teacher in the recitation. The knowledge involved under I, II, III, below, should have been mastered by the student teacher in other courses prerequisite to the teaching, but the supervisor should check them up to the teacher, as indicated below, for convenient reference during the course.

The act of teaching and managing a class involves three fundamental factors — namely, the method, the devices, and the technique — that most adequately motivate the work of the pupils and secure mastery of the subject. Effective supervision must take into account the distinctions between these factors and instruct the learning teacher in the principles of method, make the teacher acquainted with the devices, and train the teacher in proper efficient technique.

Therefore the supervisor should give the teacher an outline somewhat as follows:

Outline for Directed Teaching

I. As to method

1. Whether the subject as a whole can be developed best in the form of inductive problems, or deductive problems.
2. What parts of the subject can be developed best in the form of inductive problems, and what parts can be taught best in the form of deductive problems.
3. The technique of presenting subject-matter in the form of inductive problems, which is as follows:
 - *a.* Use striking representative cases first, then less striking cases, and then still less striking cases, etc., until the generalization seems to be mastered.
 - *b.* Make the illustrations appeal as vividly as possible to both the sensory and mental experiences of the pupils.
 - *c.* Use an ample amount of material.
 - *d.* Practice upon the material thoroughly.
 - *e.* Require a definite and accurate statement of the generalization.
4. The technique of presenting subject-matter in the form of deductive problems, which is as follows:
 - *a.* Begin with a clear statement of the generalization or definition.
 - *b.* Use typical illustrations of its application.
 - *c.* Use an ample number of applications and practice thoroughly.

II. As to devices

1. To what extent such general devices as blackboards, maps, encyclopædia, dictionary, charts, lantern, lecture, questions, correlations, etc., are essential and helpful in the presentation of the subject.
2. To what extent devices special to the subject or to certain phases of the subject, such as objects, models, outlines, graphs, special apparatus, special correlations, special types of questions, etc., are essential and helpful in the presentation of the subject.
3. Technique in using devices, which involves the habit of:
 - *a.* Deciding when making the daily plan exactly:
 - (1) What physical devices will be used and the extent to which they will be used.

(2) What mental devices will be used and the extent to which they will be used.

b. Working out each device carefully and fully preparing it before class time. Technique in manipulating devices should give special attention to the art of questioning and of lecturing. The outline below suggests important habits that should be formed:

(1) *Questioning:*

(*a*) Preparing careful list of questions before recitation rather than depending upon spontaneous questions during the recitation.

(*b*) Adapting the kinds of questions to the nature of the subject-matter, the development of the pupils, and the purpose of the recitation. Such adaptation will include:

(b^1) Thought-provoking questions, demanding interpretations of subject-matter.

(b^2) Fact questions, demanding memory.

(b^3) Developing questions.

(b^4) Pivotal questions.

(b^5) Questions answered by yes or no (at times).

(b^6) Questions that answer themselves (at times).

(*c*) Regulating the number of questions by:

(c^1) The nature of the subject-matter and the amount that is involved in the answer.

(c^2) The size of the class and the maturity of pupils.

(c^3) The length of the recitation.

(*d*) Regulating the speed of asking questions by the purpose of the lesson as to whether for:

(d^1) Review.

(d^2) Drill; or

(d^3) Discussion of new material.

(*e*) Having pupils:

(e^1) Question one another on the interpretation of the subject-matter; and

(e^2) Question one another about their discussions.

(*f*) Guarding against:

(f^1) Repeating the answers of the pupils.

(f^2) Asking too many questions, or too few.

(f^3) Breaking subject-matter up into too small fragments.

(f^4) Failing to state questions clearly in the fewest words.

(f^5) Indicating the answer by the form of the question.

(f^6) Naming the pupil who is to answer before asking the question.

(f^7) Not giving sufficient time for thinking out the answer or discussion before naming the one who is to recite.

(f^8) Automatically saying "all right," "correct," "yes," or any other set indication that the answer is satisfactory. Train pupils to weigh answers, and to learn from what follows whether or not the answer is satisfactory.

(2) *Lecturing:*

(*a*) Give a brief summary outline of the organization of the lecture at the beginning.

(*b*) Outline in detail the argument under each large point in the lecture, as it is taken up in turn, before giving the illustrated discussion of the argument.

(*c*) Take each detailed point in the argument in turn and amply illustrate the discussion.

(*d*) Have all charts, drawings, graphs, and apparatus of any sort that is to be used for making demonstrations fully prepared and conveniently arranged for use at the proper time. (Be sure to test apparatus and all mechanical devices near enough up to the time for the lecture to know that they will work satisfactorily.)

(*e*) Require pupils to take down the summary and the important detailed points of the argument and at times to hand them in at the close of the lecture.

(*f*) Stand or sit in a commanding position, so that every member of the class can see and hear distinctly the entire lecture.

(*g*) Face the class and catch the various physical reactions and facial expressions that indicate the attention and interest of the pupils.

(*h*) Modulate the voice and regulate the force of utterance according to the size of the room and the size of the class.

(*i*) Be sure that graphs, charts, etc., are placed so that every member of the class can see easily. (Note. — Lecturing in elementary and high-school classes should be employed chiefly in making demonstrations in science, and in introducing supplementary material that is not readily accessible in any other form.)

c. Carefully testing the mechanics of devices to insure success in their use.

d. Arranging devices conveniently for use at the right time.

III. As to technique

1. General habits that apply to all teaching. The following items are suggested:

a. In reference to teaching:

(1) Thorough preparation for each day's recitation. This involves the mastery of the subject-matter to be taught and a detailed plan for its presentation.

(2) Promptness in beginning and closing the recitation.

(3) Correcting the errors in the English of the class.

(4) Addressing questions to the class and not to the book, the blackboard, etc.

(5) Facing the class when explaining or discussing a point.

(6) Requiring the pupils to do most of the reciting.

(7) Bringing each pupil into the recitation frequently so as to give all an equal opportunity and to stimulate interest.

(8) Requiring each pupil to recite for the benefit of the whole class.

(9) Sticking to the lesson and not being sidetracked, es-

pecially by keen-witted pupils who have not prepared their lessons.

(10) Respecting the individuality of the pupils.

(11) Modulating the voice well; enunciating clearly; using good English.

b. In reference to discipline:

(1) Holding up clearly high standards of conduct, good order, and work.

(2) Deciding quickly and acting promptly.

(3) Meeting pupils in personal conferences in order to bring about a definite understanding with them as to what is expected of them. This is one of the best ways of making the pupil feel his responsibility to the school and also of establishing a close friendly tie between teacher and pupil.

(4) Seeing and hearing everything that goes on in the room, in the halls, on the playground, on the street, and in public places where the conduct of pupils should be observed.

(5) Dignified, firm bearing; attitude of sureness of self and just what is going to be done.

(6) Controlling temper; keeping cool in emergencies.

(7) Alertness and accuracy in interpreting the acts of pupils, so as to anticipate their conduct and to start counter-suggestions to prevent undesirable behavior.

(8) Not having a chip on the shoulder; not supersensitive; not easily upset by aggravating things.

(9) Willingness to go more than halfway in meeting a pupil who is being disciplined.

(10) Looking upon the misconduct of pupils as an opportunity to do a piece of real vital work in education: remembering that it is the character of the individual and not personal satisfaction or justification that is to be sought in discipline.

(11) Making the punishment the logical consequence of the act.

c. In reference to self:

(1) Regular hours for all activities; conserving one's best energies for school work.

(2) Not letting whims or peculiar habits interfere with the work.

(3) Genuine enthusiasm for the subject and for the adolescent boys and girls.
(4) Sympathy with the pupils in their study difficulties and in the mental, physical, social, and domestic stresses that they have to meet each day.
(5) Cheerfulness and optimism; faith in the final results of the teacher's work.
(6) Sincerity and straightforwardness; not affected in speech or in manners.
(7) Model personal habits; moderation in dress; good postures in sitting, standing, and walking.
(8) Willingness to give up any habit that may mislead pupils, or that may mislead the public in forming its opinion as to a teacher's true character and motives.

d. In reference to the classroom:
(1) Noting the temperature at the beginning and during the recitation.
(2) Noting the condition of the air at the beginning of the recitation and regulating the ventilation so as to keep the condition as nearly right as possible.
(3) Noting the light at the beginning and during the recitation, and regulating it by proper adjustment of window shades and other means that may be available.
(4) Noting the general physical condition, such as arrangement of chairs, and their condition as to dust, cuttings, markings, etc., cleanliness of floor and blackboards; position and condition of the equipment, such as maps, dictionary, etc.
(5) Noting the physical condition of students as to dress, colds, skin eruptions, etc.
(6) Seating of students in systematic order, but so as to provide for individual difficulties in hearing and seeing, and so as to be able to shift the class from their chairs to the blackboard with facility; seating students so as to avoid disciplinary problems.
(7) Keeping the teacher's desk in neat, orderly condition.

e. In reference to the use of the textbooks:
(1) Examining the textbook thoroughly from preface to index before attempting to make assignments from it or to use it as a source of information.

(2) Mastering the author's point of view and organization of subject-matter before attempting to use the book.
(3) Evaluating the materials of the book in the light of textbook standards and the purposes for which the subject is being taught.
(4) Being definite and very specific in directing the pupils in the use of the text for the purpose of preparing lesson assignments.
(5) Marking for the class at the beginning of the course all material that is not important.

f. In reference to the use of reference works:
(1) Giving author, title of book, title of chapters to be read, topics, and pages.
(2) Giving the title of the article, author, title of the magazine, page, month, and year.
(3) Giving the library, the room, and whatever specific directions that will enable the pupils to secure the use of the references, without loss of time and energy.

g. In reference to one's superiors, one's colleagues, and the school :
(1) Prompt and willing performance of all duties.
(2) Making efficient service one's chief concern.
(3) Loyalty to the ideals and policies of the administrative forces.
(4) Loyalty to one's fellow teachers in their work.
(5) Keeping still on the outside of school concerning matters that are discussed in teachers' meetings or the office, as school family affairs.
(6) Boosting the school as a whole; boosting the work of the superintendent, the supervisors, and one's fellow teachers.
(7) Loyal support to musical, literary, and athletic organizations and enterprises.
(8) Active participation in the social affairs of the school.

Choice of specific habits of skill. The supervisor should indicate the specific habits of skill that are particularly effective in teaching the particular subject. Some subjects can be taught most effectively by skilled technique in the art of

questioning. Others may be taught well by use of lectures or by conversation. And still others may be taught best by skillfully manipulated apparatus and materials, and the efficient management of a laboratory, etc. Whatever forms of technique are most effective should be outlined in detail as they apply to the teaching of the subject-matter of the particular subject.

Definite detailed lesson plans. The supervisor can safeguard the welfare of the pupils who are being taught, and further the training of the teacher, by giving the beginning teacher, or the teacher beginning the teaching of a new or relatively unfamiliar subject, definite detailed lesson plans that the teacher is to follow. The teacher should follow these plans carefully and thoroughly. If the plans are rightly made, the teacher should be able to accomplish in each recitation the work that has been laid out to be done. The mastery of such lesson plans involves keen, intelligent interpretation of the method involved, the devices employed, and the technique to be practiced. The teacher who can accurately interpret the plans of the expert teacher or supervisor has taken the first step toward independence in making lesson plans on his own initiative. Intelligent interpretation must be followed by effective technique in carrying out the plans.

The better the teacher understands the plans, the more likely will he be to carry them out in an effective and thoroughgoing way. Therefore the study and teaching of lessons according to excellent plans develops insight and skill. The teacher may soon acquire such intelligent insight into the nature, extent, and form of effective plans for teaching the subject, and such reliable habits in carrying out definite detailed plans, that he can be entrusted with doing his own planning, subject to the approval of the supervisor. The teacher who has not the intelligence to interpret and follow

the carefully worked-out instructions of the supervisor will not be able to make plans of his own that will be effective.

This device, then, is one of the most searching tests that can be applied to the teacher to determine his possibilities at the earliest period possible in his training. The teacher who fails in this regard will likely fail in meeting the further tests of independence and initiative. The person who cannot exhibit genius in carrying out a set piece of work will not have the genius to set a piece of work to carry out.

Differences between teachers. Some teachers can carry out detailed directions that have been set for them better than they can set definite directions for themselves to follow. Such teachers will always do their best teaching when they are working under close supervision, or following a very detailed course of study. They are not hindered, however, by the following of expert detailed plans for a number of lessons at the outset of their teaching, in their development toward the highest degree of independence and initiative that is possible for them to attain. They will be able by the use of such plans to pass the first test of an intelligent teacher, and to prove themselves worthy of being given further opportunity. They may fail to meet the test satisfactorily when thrown upon their own responsibility. The fact that they have passed only the first test in a satisfactory manner enables the supervisor to classify them as skilled in interpretation and execution, but weak in initiative and independent organization. Accurate classification of teachers on this basis will enable the supervisor to make an intelligent statement concerning the type of teaching position for which the particular teacher is best adapted.

The requirements in making lesson plans. Two types of lesson plans should be required of teachers who teach under close supervision, either in the public schools or in a training school. The first type is the weekly lesson plan. The pur-

pose of the weekly lesson plan is twofold; namely, to train the teacher in planning ahead work that can actually be done thoroughly, and to train the teacher to do what is planned out to be done. The weekly lesson plan should be gone over by the supervisor and revisions suggested before the work of the week is started.

Two forms of the weekly plan may be used. The first form should be for the work planned a week in advance, and the second form should be for the work actually accomplished during the same week. The first form may be designated as the *A* blank, and the second as the *B* blank. These blanks as filled out by the teachers should be kept on file in the supervisor's office. The progress of the teachers will be shown by the lessening difference between the data on the *A* and *B* blanks for the same week until they are practically identical. The accumulation of *B* blanks for successive years in the same subject will afford an excellent basis for determining the quantity of subject-matter that can be taught in the subject to a certain age or grade group of pupils.

Weekly lesson plans. The more carefully the weekly plans have been prepared, the more reliable they will be as an objective basis for determining the unit of subject-matter. A reduced copy of each form that is used in the University of Kansas Training School is given herewith. The actual size of the forms is nine and one half by eight inches, and only one side of the sheet is used.

The daily lesson plan. These represent a second type of plan, and should be worked out in detail and submitted for approval before the recitation. The teacher should have time to make any revisions that seem necessary for the improvement of the plans. These plans should be made in duplicate, so that the teacher and supervisor may each have a copy during the progress of the recitation. The super-

WEEKLY LESSON PLAN

(Form A)

UNIVERSITY OF KANSAS
SCHOOL OF EDUCATION

Work Planned for the Week.....1919....

A

Subject..... Teacher.....

Mon.....
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Tues.....
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Wed.....
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Thur.....
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Fri.....
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Remarks:.....
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WEEKLY LESSON PLAN

(Form B)

UNIVERSITY OF KANSAS
SCHOOL OF EDUCATION

Work Completed for the Week.....1919....

B

Subject..... Teacher.....

Mon.....
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Tues.....
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Wed.....
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Thur.....
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Fri.....
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Remarks:.....
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visor should give the teacher a definite outline to follow in making the daily lesson plans. Such an outline should be inclusive, so that no items will be omitted that ever occur in recitations. The teacher should understand that not all of the items on the outline will enter into every day's plan. Some recitations, however, will involve all of the items to some extent. The outline should be practical rather than pedagogically ideal. The following plan is suggestive, and has been found to be usable and practical:

DAILY LESSON PLAN

Class and subject..... Teacher.....

1. Assignment of advance lesson — Number of minutes.
 - *a.* At beginning or close of period?
 - *b.* Outline.
2. Review — Number of minutes.
 - *a.* Ground to be covered.
 - *b.* Definite questions or outline.
 - *c.* Distributed through the recitation, or all at one time?
3. The day's lesson — Number of minutes.
 - *a.* Purpose.
 - *b.* Quizzing the preparation of the pupils.
 - (1) Definite questions or outline.
 - *c.* Development of points that the study of the pupils was not expected to give.
 - (1) Outline.
 - (2) Devices.
 - *d.* Introduction of new or supplementary material.
 - (1) Outline.
4. Drill — Number of minutes.
 - *a.* Special points to be practiced.
 - *b.* Devices.
 - *c.* Materials.

Value of daily lesson plans. The practice of making detailed daily lesson plans is one of the important means of training teachers to accomplish what they plan to do. A great deal of time and energy is lost through poor teaching,

and one of the chief causes of poor teaching is lack of definiteness. The teacher who plans definitely what is to be done during a recitation and holds rather strictly to the plan will refine his teaching performance many fold. He will not be easily sidetracked, but will bring everything to bear upon accomplishing what he set out to do.

Another effect of the practice of making detailed lesson plans is that of developing the habit of having a worth-while goal. The very fact that one attempts to work out a definite procedure in teaching a lesson impels him to have a definite goal toward which he will work. Therefore the assignments that the teacher makes will become more and more definite. This will be especially true if the teacher prepares the detailed lesson plan for teaching the lesson before the assignment of that lesson is made. The teacher who plans the details of the recitation, before making the assignment of the lesson, will not be so likely to assign too much or too little to be accomplished in the recitation period. The more definitely the teacher has planned the teaching of the assignment, before making it, the more definite will be his instructions to the pupils in directing them in their study of the assignment.

Lesson plans do not lead to mechanical work. The making of detailed lesson plans does not make mechanical teachers. The teacher who follows the practice soon becomes skilled in anticipating the reactions of the pupils, and will find little need for modifications of the planned procedure during the recitation. When modification is needed, however, the teacher who has worked out a clear, definite scheme of procedure is better prepared to make the proper modification in the face of the recitation situation. In the first place, the teacher has something definite to modify, and can, therefore, make a definite modification to meet a definite situation. The teacher who is capable of making an intelli-

gent, detailed plan for teaching a lesson will be intelligent enough to make intelligent modifications of the procedure as the recitation situation may demand.

The practice of making detailed daily lesson plans will not make the reactions of the pupils mechanical or rob them of their spontaneity. In other words, the pupils will not be sacrificed for the plan. The teacher plans for the pupils in making her program of procedure in teaching. The various possible reactions are anticipated, and the plan undertakes to set up a scientific psychological handling of all the factors involved in the recitation, so that a definitely attainable goal may be most effectively reached. The more definitely the teacher plans, the less likely he will be to lose sight of the vital interests of the pupils.

They clarify thinking for the beginner. Finally, then, one may say that making detailed lesson plans clarifies one's thinking and gives a perspective of teaching problems that cannot be got in any other way. One must get away from the generalities of pedagogical principles, and get down to the specific details of actual procedure if he is to make any progress in becoming skilled and efficient in conducting the recitation. A comprehension of general laws and principles is essential, but specific applications or exhibitions of these laws in particular acts, in the teaching of particular lessons, is the only process by which the teaching performance can be refined and rendered effective. The teacher who thinks in broad, general terms of pedagogy in planning a lesson will not discriminate sharply between the essentials and the non-essentials. Such a teacher may keep in the general direction and may make a good deal of a show of the recitation performance, but he never knows surely and accurately when he has arrived. On the other hand, the teacher who commits his pedagogical ideals to definite subject-matter form, to definite forms of devices, and to systematic technique,

will know quite accurately when he has accomplished a specific piece of work.

Relative recitation time to be given to oral and to written work. This varies according to the subject, the size of the class, and the length of the recitation. Either device may be used too exclusively for securing the best results. The tendency to fall into the habit of relying almost entirely upon the one form or the other makes it important for the supervisor to suggest the value of each form and the relative emphasis that should be given each.

Time for quizzes, relative number and character of questions. The time for holding quizzes may vary according to the amount of emphasis that the supervisor wishes to give to this phase of the teacher's work. Short quizzes may be held at the completion of definite phases of subject-matter. They may also be held at stated periods, such as every six, nine, twelve, or eighteen weeks. Whatever practice the supervisor desires to have followed, he should indicate clearly in these instructions to teachers.

The relative number of questions and their character should also be indicated. Teachers tend to ask too many questions for the length of time the pupils have to write. They also tend to ask questions that are too largely memory tests. The character of the questions should be determined by the nature of the subject, the purpose for which it is being taught, the maturity of the pupils, and the relative emphasis that has been placed upon content material and formal material in presenting the subject.

The supervisor should also indicate the procedure in grading quiz papers. This should be determined by the nature of the subject and the purpose of the quiz. If the quiz contains different types of questions, such as memory questions, reasoning tests, tests of application of principles, etc., it is likely that the types should have different value

on the basis of one hundred points for the whole quiz. The amount of value that should be attached to the form of the answer, and the value that should be given to the intelligence or correctness of procedure, should be definitely determined and indicated.

Preparation of lessons. The length of time that the pupils should spend in the preparation of the different types of lessons, such as the lesson demanding the mastery of new subject-matter, and the lesson demanding practice upon material that is understood, will of course vary. As a rule the lesson demanding practice upon material already understood should take more time than the one demanding the mastery of new subject-matter. The reason for this is that the pupils are better prepared to carry on this type of study, and can work longer with less danger of falling into errors and becoming discouraged. The lesson demanding mastery of new subject-matter may be developed very largely through the recitation period. Therefore the preparation for such a lesson should usually demand less time, but more concentrated effort.

Section summary. The supervisor should begin to direct the thinking of the teacher in preparation for his teaching performance as well as during the progress of his teaching. The fundamental points upon which the teacher's thinking should be directed are: The important distinctions that set off method, device, and technique from each other; the essential characteristics of method, device, and technique that should be thoroughly mastered; the making of weekly and daily lesson plans; the relative emphasis, in the recitation, of the oral and written work; the holding of quizzes; and the demands upon pupils in preparation of their lessons. Carefully prepared detailed outlines are the most economical means that the supervisor can use in accomplishing this task systematically.

CLASS EXERCISES

1. Select one of the fundamental elementary-school subjects, and make an outline that indicates the points as to method, devices, and technique according to the suggested outline given in this chapter.
2. Make an outline of specific habits of skill that apply to the teaching of the subject selected under 1, above.
3. Select one of the high-school subjects, and make an outline as under 1, above.
4. Make an outline of specific habits of skill that apply to the teaching of the high-school subject under 3, above.
5. Make a blank form that you would recommend to teachers for use in making weekly lesson plans.
6. Criticize the daily lesson-plan form given in the chapter, and make a form that you think would be more helpful to the teacher.
7. Select one elementary-school subject, and determine the relative amount of time that should be given to oral and written work in the daily recitation.
8. Select one high-school subject, and determine the relative amount of time that should be given to oral and written work in the daily recitation.
9. Make an outline of the suggestions that you would give the teacher of a fifth-grade arithmetic class, as to the time for holding quizzes, and the relative number and the character of quiz questions.
10. Make an outline of the suggestions that you would give the teacher of ——, a high-school subject, as to the time for holding quizzes, and relative number and character of quiz questions.
11. Select an elementary-school subject, and determine the amount of time the pupils should spend in the preparation of a specified new subject-matter lesson. Determine the amount of time that should be spent in preparation of a lesson on practice material in the same subject.
12. Select a high-school subject, and determine the amount of time the pupils should spend in the preparation of a specified new subject-matter lesson. Determine the amount of time that should be spent in preparation of a lesson on practice material in the same subject.

2. Supervised study

Supervised study is used here to mean every phase of the teacher's work that aids the pupil in the mastery of subject-matter, formation of study habits, putting forth consistent effort in the study of the subject, and in developing power of analysis, technique of organization of subject-matter, and

ability to apply knowledge to new situations. The chief ways in which the teacher may effectively supervise the study of pupils are as follows:

The recitation. The recitation as an effective means of directing the study of pupils should involve at least three important items.

1. The lesson assignment. The assignment of the lesson should be clear and definite. The assignment should enable the pupils to know what to do and how to go about it. The pupils should be required to take full notes on the lesson assignment, so that they will not depend upon memory for guidance in their study. The assignment should include instructions in the use of textbooks and other helps that the pupils should use in the preparation of the lesson.

The definiteness of the assignment should be emphasized. The pupils should have clear-cut problems to attack, and they should realize fully what they are to accomplish by their study. They should also know what they must do to accomplish these definite results. In other words, the assignment should indicate the procedure that really constitutes study of the subject-matter assigned.

2. The recitation demands. The recitation should make such demands upon the pupils that they will be compelled to prepare the lesson in the way that they have been directed. This means that the recitation must deal with the subject-matter assigned for that particular recitation, and it must be dealt with in the way that the assignment indicated it would be taken up. The recitation should not introduce new demands for which the pupils have not prepared. This does not mean that new points may not be developed, but it does mean that the development of new points must demand the use of the preparation that was made in studying for the recitation.

One important item is that the recitation should keep

up with the assignments. Teachers sometimes make such erroneous plans for their assignments that they keep falling farther behind with the recitation until the recitation never gets to any of the lesson assigned the day before, and even does not touch on any of the lesson assigned two days before. In such cases the teacher usually goes on assigning the advance lesson as if the recitations were keeping right up with the assignments. The result of such a condition is that the pupils soon cease to study the assignment with any degree of seriousness. They do not know when they will get caught up with the game, so they take things easily. Teachers should be cautioned against falling into such a habit. They should be advised as to the best way in which to extricate themselves in case they do get caught in this unfortunate situation. Careful study of the proposition that the recitation should make such demands upon the pupils that they must study in the way that they have been directed will enable the teacher to avoid this unfortunate situation.

3. Study during the recitation. The recitation should be a continued study of the subject, rather than a mere quizzing for facts which have been memorized in preparation for the recitation. This should be true especially when the recitation involves the study of new subject-matter. Some recitations must be for drill, and others for reviews. Most recitations, however, that demand study at all on the part of the pupils should be genuine group-study periods of the coöperative type. This idea of the recitation needs to be emphasized. The more that teachers plan to use the recitation as a means of directing the study of the pupils, and of leading them farther into the subject-matter than the individual study of the pupils will take them, the more effective the teaching will be and the better the study habits of the pupils will be.

One important point that can and should be brought out in the study recitation is that of indicating clearly to the pupils the subject-matter that should be learned and memorized just temporarily, as a means to an end in study, and the subject-matter that should be learned permanently. Pupils should be guided in their memorizing practices so that each type of subject-matter will be learned most economically. The teacher should guide the study of the pupils in such a way that the pupils will know when they are ready to spend time upon the thorough memorization of a unit of permanent subject-matter. Outlines and other devices should be given the pupils that will take the place of memorization during the development of the unit of subject-matter that is to be permanently memorized after it has been thoroughly worked out.

Supervised study period. Some schools have adopted a plan of double periods for the classes in which they desire to carry on supervised study. The teacher conducts recitation for half the double period, and guides the study of the same group for the other half of the period. This plan assumes that every day the group should or will be assigned a lesson that requires study of the analytical, interpretative sort. Therefore the teacher is to supervise the study of the lesson, and later have the recitation that tests the results of the study. If the suggestion that has been made above is followed, namely, that the recitation should be a continued study of the lesson rather than a mere testing and quizzing of the pupils on the facts studied, the supervised study period as something set apart from the recitation will be unnecessary. Whether the regular recitation period is utilized for a supervised study performance, or regular periods other than the recitation are set aside for such supervised study, the procedure of the teacher should be practically the same.

The following outline is suggestive of the technique that may be practiced:

Group study.

1. Raise specific problems.
2. Suggest relevant subject-matter that will aid in the solution of the problems. This should include the kinds of materials and the source of the materials.
3. Suggest means of sifting and selecting relevant facts, principles, laws, etc.
4. Suggest means of testing and verifying results.
5. Indicate subject-matter that is to be used purely as a means and subject-matter that is to be learned as an end.
6. Give special attention to individual differences that are due to:
 - *a.* Sex.
 - *b.* Age.
 - *c.* Stage of mental and physiological development.
 - *d.* Previous training and experience.
 - *e.* Influence of economic and social conditions.
 - *f.* Status of health.

Individual study conferences. The teacher should have individual study conferences with every pupil who is not getting along well in his work. These conferences should follow some definite technique of procedure. The following suggestions may be helpful:

1. Seek out particular weaknesses.
2. Vary the point of attack upon subject-matter to meet the individual needs of pupils.
3. Raise specific problems.
4. Suggest relevant subject-matter that will aid in the solution of the problems. This should include the kinds and the sources of materials.
5. Suggest means of sifting and selecting relevant facts, principles, rules, etc.
6. Suggest means of testing and verifying results.
7. Stimulate initiative and secure maximum effort.
8. Indicate subject-matter that is to be used purely as a means, and subject-matter that is to be learned as an end.

9. Give special attention to individual differences that are due to:
 a. Sex.
 b. Age.
 c. Stage of mental and physiological development.
 d. Previous training and experience.
 e. Influence of economic and social conditions.
 f. Status of health.

Make-up work. Teachers should have a definite plan for guiding pupils in making up work that has been missed. The following items are suggestive of the technique that might well be adopted.

1. Technique in handling make-up work is important and should involve:
 a. A definite assignment of problems and materials.
 b. A definite form in which the work is to be submitted.
 c. A definite time for the work to be completed.
 d. A definite means of testing the efficiency of the work.

The teacher should have an ample supply of supplementary material that may be used for make-up work instead of the material that was used in class while the pupil was absent. The same problems should be presented and the same habits and skills required as have been given to the class. Presenting the same problems with different materials avoids the possibility of the pupil's copying another pupil's work instead of really making the work up.

Literature on study. The teacher should put literature into the hands of the pupils which gives practical information and suggestions as to habit formation and self-government. Supplement this literature with a definite list of habits that will be helpful in learning how to study the particular subject.

Conferences. Two types of conference are suggested as good devices for keeping in close contact with the development of teachers; namely, group conferences and individual

conferences. Both types are important and essential to good supervision. The technique of directing these conferences will be discussed in some detail in Section C.

Training in use of standard tests and scales. Standard tests and scales have been thoroughly enough established now so that they may be used to great advantage in determining pedagogical problems. The use of such tests and scales, however, is accompanied by certain dangers which can be avoided only by a thorough understanding of the purpose and nature of these tests.

One of the most important points that should be given careful consideration is the fact that anything that is standardized is necessarily limited in its function. A standard is designed to measure a certain thing and nothing else. A standard test only tests that for which it has been designed; hence it must not be taken as a measure of other things. The silent-reading tests, for example, are designed to test the speed and accuracy with which the pupil reads assigned material. They do not test the pupil's ability to appreciate and enjoy what he reads. Neither do they test his ability to work out the meanings of new and difficult words, and to choose appropriate meanings where more than one construction might be put upon the words. In short, these reading tests are limited to measuring just a small part of the mental results that training in reading should develop in the mind of the pupil. This small part of the mental results is highly important, however, and it should be measured in the thorough way that these tests enable it to be measured. The frequent use of these tests will enable the teacher to locate definitely the individual needs of the pupils in silent reading. The range of individual differences in this respect can be accurately established, and this will enable the teacher to distribute his time and energy to best advantage in bringing all the pupils up to the desired stand-

ard of efficiency. Moreover, the use of the tests enables the teacher to measure the relative value of the various devices and technique that he may employ in endeavoring to accomplish the desired results.

On the other hand, the teacher must employ other means than the standard silent-reading tests in the measuring of the other mental results that are desirable to secure in reading. If standard tests are available for measuring any of these other results, they should be used for measuring those particular things, but if no such tests are at hand, then such unstandardized means as experience has proved best must be used.

Value of tests in grading and promoting. A second point that is of great importance is the relative value of the standard tests and the unstandardized tests in determining the grading and promotion of pupils. If the mental results that are measured by the standard tests are the most important, then the tests may be used very largely for the purpose of determining promotions, but the teacher should be very sure that these results are not given more weight than they really merit. The mental results that have as yet never been standardized may be the most important ultimately, if not now, and they should be duly evaluated in determining grades and promotions. After all, it is only the formal aspects of training that best lend themselves to standardization. The enriching, the broadening, the character-making aspects of education are much more difficult to standardize. Nevertheless, as ultimate outcomes of education, they are more important than any form of standardized habit or skill.

Standardized tests and standardized skills. What, then, is the pedagogical relation that should exist between the standardized skills and the unstandardized outcomes of education? The relation is that of means to an end. The standardized aspects of training should be the means of

furthering the unformalized processes of mental development. They should free the mind of the learner from the consideration of its formal development by becoming so thoroughly habit that they function automatically. The great danger is that these standardized aspects of training will be made too much the end of education, and that so much time will be given to these tools for their own sakes that the more vital issues will be neglected. In other words, the danger is that education will end with the mastery of formalized, standardized habits and skills when it should just be beginning. These standardized skills must be mastered, and the standard tests are the best means yet devised for knowing when they have been mastered to a satisfactory degree, but education to be highly effective must always go beyond the stages of attention to formal things for their own sakes.

Some knowledge of their use a necessity. Not only teachers, but supervisors and administrators, need to know the limitations of the functions of standard tests. The supervisor can be greatly aided in measuring the efficiency of his teachers, in respect to securing results in those aspects of education that can be formalized, by the use of standard tests. The administrator can likewise use these tests in measuring the efficiency of his school system in respect to these formal aspects of education. The supervisor can determine definitely, by use of these tests, what teachers need most help in dealing with the standardized phases of subject-matter. The administrator can use the tests to locate the particular schools or grades in his system that are weakest in respect to formal training. The danger is that the efficiency of teachers and the efficiency of the school system as a whole will be measured too much by the results secured by the administration of standard tests, whereas these tests should be used to discover the time in school progress at

which to stress the other aspects of education, and to use other valid means than these tests in measuring the efficiency of teachers and the efficiency of the system as a whole in attaining the more vital outcomes of education.

Skill in using standard tests and scales should be made an important part of every teacher's training. The technique of administering these tests can be acquired only through actual practice. Ample opportunity for such practice should be provided, and it should be carried on under very careful supervision until the desired skill has been attained. The results secured should be utilized to the fullest possible extent in locating individual needs, and in measuring the value of the various devices and the forms of technique employed in the teaching of the subjects in which the tests are given.

Section summary. The teacher should be trained to direct the study of his pupils chiefly through: definite, clearly understood lesson assignments; recitation demands that utilize and capitalize the preparation the pupils have been directed to make; and making most recitations a continued study of the lesson. Where a separate period is used for supervised study, the teacher should master the technique of directing group study. The technique of directing individual study through personal conferences should be mastered, and this should include a definite plan for handling make-up work. The teacher should place literature on How to Study in the hands of the pupils.

CLASS EXERCISES

1. Make an outline that will help the teacher in making lesson assignments definite and clearly understood.
2. Make out in detail lesson assignments in two or more elementary-school subjects, in keeping with your outline.
3. Make out in detail lesson assignments in two or more high-school subjects, in keeping with your outline.
4. Give detailed suggestions as to the demands in the recitations in

geography, arithmetic, and reading that would compel the pupils to study in the way they were directed, in order to get along well in the recitation.

5. Give detailed suggestions as to the recitation demands that you would make in high-school classes in history, algebra, Latin, English literature, and one of the sciences, in order to control the kind of study preparation made by the pupils.
6. Make a detailed study recitation plan for a lesson in one of the elementary-school subjects.
7. Make a detailed study recitation plan for a lesson in one of the high-school subjects.
8. Criticize the suggested outline given in the chapter for the direction of group study, as to definiteness of organization, completeness or excessiveness of details, formalism, etc. Try to improve the outline for your own use.
9. Criticize the outline for individual conferences, and make a more usable plan.
10. Select an elementary-school subject, and make a definite detailed plan for handling make-up work in it.
11. Select a high-school subject, and make a definite detailed plan for handling make-up work in it.
12. Select two or more books on How to Study that would be suitable to place in the hands of high-school pupils.
13. Make a set of instructions that you would recommend for grade pupils, to aid them in studying all lessons.
14. Make a set of instructions for one subject that you would recommend for grade pupils to aid them in preparing lessons in that subject.

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Excellent discussion of principles, and good summary of rules.

SECTION C

TECHNIQUE OF SUPERVISION

CHAPTER XIII

PRINCIPLES UNDERLYING THE SELECTION OF TECHNIQUE

The purpose of supervision. That the supervisor exists for the sake of the teachers who work under his direction, and for the sake of the pupils who work under the direction of the teachers, may be stated as the first important principle in good supervision. This is a fundamental point of view, and every supervisor who holds this point of view will render more efficient service than he could otherwise do. Supervisors too often look upon teachers and pupils as a means of exploiting their ideas about the teaching of their particular line or lines of work. They seek to show off their own performance and to attract attention to themselves. The progress of the teachers under his direction should be the immediate concern of the supervisor, and indirectly the progress of the pupils being taught by these teachers.

This might be stated just the opposite way and yet the meaning remain the same. That is to say, the supervisor is interested directly in the progress of the pupils being taught, and indirectly in the progress in teaching of the teachers who are teaching pupils. In other words, the supervisor cannot secure the progress desired on the part of the pupils being taught without securing the desired progress in teaching on the part of the teachers being supervised. Therefore the efforts of the supervisor should be centered upon the teaching performance of the teacher primarily as a

means of accomplishing definite desired results. Keep the teacher in the foreground, then, should be the motto of the supervisor.

This point of view gives the supervisor a large responsibility in the training and directing of the teachers. The success or failure of the teachers is to a considerable extent the success or failure of the supervisor. The supervisor should make the teachers realize at the outset that he is there for the purpose of helping, and that their interests are mutual. The teachers should be encouraged to regard the presence and efforts of the supervisor as an opportunity for them in becoming more efficient and successful as teachers. They should feel free to consult the supervisor at any and all times, and upon any phase of their work upon which they feel the need of assistance. In other words, the teachers should be made to feel that they should study diligently to discover the ways in which the supervisor can serve them most.

Supervision to develop independence and efficiency. That every act of the supervisor should be for the purpose of making the teachers under his direction independent and efficient, may be stated as the second fundamental principle in good supervision. One of the prime objects is to develop independence on the part of the teachers. This independence must come through the formation of right habits and the acquisition of skill in applying these habits to the problems of teaching. The supervisor must not let his technique of supervision get in the way of the process of developing independence and initiative on the part of the teachers under him. The teachers must not only become independent and acquire the habit of taking the initiative, but they must be efficient and reliable in their independence.

Teachers, though, may easily initiate ideas that will not lead to good results. Therefore the supervisor is responsi-

ble for the development of reliability of judgment as well as the habit of initiative. In other words, the habit of undertaking new experiments to meet situations — that is, initiative — must be checked by the practice of proceeding upon some definitely accurate basis that is significant. The teachers must not be encouraged to dash into things spontaneously in order to exhibit initiative and originality. The technique of the supervisor should tend to develop the reliable type of initiative and dependable independence rather than the spontaneous trial-and-error sort of independence and haphazard form of initiative that undertakes new things, but seldom makes anything out of them that is worth while.

Constructive work a necessity. That the technique of the supervisor should be constructive, and not destructive, may be stated as the third fundamental principle in good supervision. This is of fundamental importance, and should be followed in selecting the technique of the supervisor. It is likewise one of the most difficult principles to follow. All criticism tends to be destructive. One must not lose sight of the fact that often before one can build one must destroy that which stands in the place of what is to be built. Destruction, therefore, may be the preliminary step of real constructive procedure. As a rule, however, the destruction of the undesirable is brought about best by the substitution of the desirable. In other words, the processes of destruction and construction are simultaneous, instead of consecutive or alternative.

A really destructive criticism, then, would be one that merely destroys or attacks an existing practice without substituting anything in its place. Such criticism is never helpful, and never has a good effect upon the relations between supervisor and teachers. Such a destructive procedure is not only not helpful, but it is even dangerous for the super-

visor. The supervisor who finds fault, picks flaws, and censures without showing clearly the practice that should be followed, and without showing what the results of better practice would be, will soon lose the confidence of his teachers. Any one can find fault, but who can show how to mend the defect? That is the critical point for the teacher, and the supervisor should practice such technique as to meet this critical test fairly and satisfactorily.

Supervisory technique not unvarying. That the technique of supervision should be modified to meet the varying conditions under which the work of supervision is carried on is a fourth important principle of supervision. No act of technique is in and of itself either good or bad. The value of each act must be measured by the conditions under which it is put forth and the character of the results secured. In other words, the supervisor should select his technique in keeping with the satisfactory outcome of his performance, and not according to some preconceived notion of what ought to constitute good technique. If the supervisor puts forth acts merely because they conform to some concept that he has of how the work should be done, but fails to modify his performance in the face of unsatisfactory results, he will look upon his work as being well done, and with perfect complacency he will lay the cause of failure to obtain desired results to other factors, elements, or conditions than his own acts. Since his own acts were religiously performed, and with a regularity and definiteness that are practically perfect, he is apt to feel that the unsatisfactory results cannot possibly be due to such seemingly perfect technique. Therefore, instead of looking about for new points in technique that may possibly remedy the situation, the supervisor shifts the responsibility upon the teachers supervised, or upon conditions, etc.

The technique of supervision should be economical. This

may be given as a fifth important principle in the supervision of instruction. The acts of the supervisor in directing the work of teachers should be of such a character that they will enable him to accomplish a maximum of results with a minimum of time and energy. This economy of time and energy must be measured by the ultimate results of the supervisor's work, and not merely by the immediately obvious results. Immediate results that are good usually lay the foundation for ultimate results that are satisfactory; therefore technique that secures excellent immediate results is for the most part fundamentally correct. Sometimes, however, the immediate results may be meager or even unsatisfactory, and yet the technique practiced prove eventually to have been correct because of the ultimate results that were not apparent from the immediate outcome of the supervising activities. Ultimate results are the final test, for they bear fruit after the activities of the supervisor are no longer carried on in connection with the work of the teacher and the efforts of the pupils. Therefore, in selecting technique on the basis of its economy, the determining criterion should be the ultimate results of the supervising activities, and these results must be established by experience rather than by mere theory.

Chapter summary. The supervisor exists for the sake of his teachers; hence he should make every act further their independence and efficiency. His technique should always be constructive instead of destructive, and modified to meet the conditions under which the supervision is carried on, and in such a way as to render the technique most effective and economical.

CLASS EXERCISES

1. Give three or more cases, from your experience, in which the supervisor did not exist for the sake of his teachers.
2. Give three or more cases, from your experience, in which the supervisor did exist for the sake of his teachers.

3. Give two or more examples, from your experience, in which the supervisor made his teachers independent.
4. Give two or more examples, from your experience, in which the supervisor stifled the independence of his teachers.
5. Give five illustrations of destructive criticism of teaching performances.
6. Give five illustrations of constructive criticism of teaching performances.
7. Give five illustrations of how the same point of technique may be good in one situation and bad in another.
8. Give two or more cases, from your experience, in which the technique of the supervisor was not economical.
9. Give two or more examples, from your experience, of economical technique in supervision.

CHAPTER XIV

SELECTED FORMS OF TECHNIQUE

Technique and devices. The discussion of technique will involve some discussion of devices which are so closely involved in the technique itself as to be difficult to treat separately and yet be practical. These devices were omitted under the regular discussion of devices in order to avoid needless repetition. In like manner and for the same purpose some degree of discussion of technique was given in the discussion of devices. Some few phases of devices and technique have necessarily been given under both discussions. This fact, however, will merely serve to emphasize their importance. In actual practice the supervisor must practice good technique in manipulating devices, and he must employ good devices that enable him to execute efficient technique. In other words, sometimes the technique must be adapted for the sake of securing the best results from the device, but for the most part the device exists for the sake of the technique.

1. Visiting the teacher at work

The supervisor must visit the teacher at work in the classroom in order to become acquainted with his strong points and his weaknesses. This aspect of the supervisor's work presents several important problems. These will be taken up in order and discussed in some detail.

When should the supervisor begin visiting? The teacher is given charge of the class, and is now to be held responsible for conducting it for a definite period of time. The supervisor has given the teacher full instructions concerning the

various duties that he is to perform, and, let us suppose, has also placed detailed lesson plans in the hands of the teacher to guide his work for the first few days. Now comes the question as to whether the supervisor shall begin visiting from the very outset, or shall stay away for a day or two and give the teacher some opportunity to get the situation somewhat in hand so that he will not feel so self-conscious when the supervisor is present.

This question may be answered satisfactorily by weighing all the factors that should be considered in deciding that the teacher is ready to take up the active work of managing and teaching a class. Presumably the teacher should be able to get along for a few days without the presence of the supervisor. If the teacher cannot be trusted to this extent, there is certainly a large question as to the advisability of putting him in charge of a class at all. On the other hand, if the teacher is capable of handling the class independently and without danger of serious results for the class, then the teacher cannot be seriously disturbed by the presence of the supervisor from the very first day. The actual facts are that practically everything depends upon the personality and attitude of the supervisor and the temperament of the teacher. Some teachers find it very difficult ever to become accustomed to visitors of any character whatsoever. Such teachers will always feel more or less self-conscious whenever the supervisor is present in the classroom. Again, some teachers feel perfectly free in the presence of one supervisor, and are badly flustered and ill at ease in the presence of another supervisor. How, then, shall the answer to the question be determined?

Answer in the light of purpose. Every supervisor must settle this question in the light of all the facts in each case. The suggestion that seems valid, however, is that the more visiting the supervisor does, the better it is for both super-

visor and teacher. The more they work together, the better they will come to understand one another and to appreciate one another's individual characteristics. The more timid and self-conscious the teacher is, the more he needs to be visited in order that he may have ample opportunity to overcome his weakness. The time that the supervisor has charge of the work of the teacher is all too short at best, and every day that passes is that much opportunity gone forever. Therefore the logical time to begin visiting the work of the teacher is the very first recitation that the teacher conducts. The visits should be for the whole period, and they should continue, as time permits, until the teacher has thoroughly mastered the situation. The visits may then be less frequent, but they should continue to be relatively frequent, as long as there is possibility of assisting the teacher in overcoming faults and in establishing new habits of efficient teaching. The main point for the supervisor to keep in mind is that the performance of supervision must seek always to further the development of the teacher, and never to really get in the way of this development. That is to say, all things considered, the teacher and the pupils under the teacher should be better off because of the presence of the supervisor in the classroom during the recitation.

Entering the classroom. The supervisor often has to enter the classroom after the beginning of the recitation. He should enter in such a manner as to attract as little attention as possible. The supervisor should not intentionally become the center of attraction as soon as he enters the room. The writer has seen a supervisor come bustling into the room, in the midst of a recitation, interrupt the whole procedure to say, "Good-morning, boys and girls," and "Good-morning, Miss X——." Then would follow a few minutes of animated consultation with the teacher or some stagy fussing around the teacher's desk before finally set-

tling down and allowing the teacher to go on with the work that had been interrupted.

Presumably the only justification for such a cyclonic performance was an attempt to create a social situation and teach the children good manners. The real effect, however, was that of making it apparent to every one that the supervisor had arrived, and his majestic presence must be properly greeted and recognized before the work in hand could proceed properly. His show of enthusiasm and his fussing around before the pupils were all for effect. He wished to seem important and to make his visit seem to contribute immediately something noticeable to the life of the school. The real fact is that he contributed little else than a diversion. Diversions may be good things occasionally, but much better devices than well-paid supervisors could be employed to create highly interesting diversions.

Position of the supervisor in the classroom. The supervisor should sit in an inconspicuous place in the classroom, but so as to be able to observe both the teacher and the entire class. Rooms that are to be visited regularly by supervisors should have desk chairs conveniently placed for them These should usually be in the rear of the room, but they may be near the front if the rooms are so arranged that the passing to the rear would attract more attention than would otherwise be the case. Most schoolrooms are so arranged as to have an entrance at the rear from a cloakroom or hall. When this is the case the supervisor can easily enter quietly at the rear and attract no attention other than that the pupils become aware that he is present. The supervisor should not sit at the teacher's desk unless he intends to conduct the recitation, and has come primarily for that purpose. The reason is obvious. The supervisor at the teacher's desk is more conspicuous than the teacher, and pupils cannot give undivided attention to the work of the recitation. More-

over, the teacher is placed in an awkward position, and finds it difficult to offset the feeling that the supervisor has assumed a critical attitude and a judicial air. The teacher cannot help feeling that he is on trial before the high court. Not all teachers would feel this embarrassment, and not all supervisors would create such an impression, no matter where they sat during the recitation, but many teachers will feel this embarrassment; hence the best plan is to follow a technique that precludes the forceful suggestiveness that comes from taking the seat of authority in the classroom.

When the supervisor sits in the rear of the room, or in some equally inconspicuous place, the teacher is made to feel that the supervisor is for the time being a member of the class. The teacher in presenting the lesson to the pupils is also presenting it to the supervisor. Moreover, the supervisor and teacher can develop a sort of team work that will enable them to communicate with each other without the pupils being aware of the fact. For example, the room may need a little ventilating, or adjustment of light, etc. The teacher may not notice these items until a glance from the supervisor directs his attention to them. The teacher can then tactfully look after them in such a manner as to create the least possible disturbance, and so lose the least possible time. Other suggestions may also be conveyed to the teacher without attracting the attention of the pupils. The possibilities of utilizing the place in the room to direct the recitation in this way should not be neglected by supervisors.

Leaving the room. The supervisor often finds it necessary to leave the room before the end of the recitation period. Whenever this is the case, the supervisor should withdraw in such a manner as to attract as little attention as possible. The supervisor who was mentioned above always made his departure as conspicuous as his arrival. He must

say, "Good-bye, boys and girls," and "Good-bye, Miss X——." Then he would go sweeping out with a royal dignity that held the attention of the pupils until he was out of sight and hearing. The supervisor who is attempting to do constructive educational work through training and directing the teachers will find no advantage or benefit in such spectacular, grand-stand performances. The departure of the supervisor should not be an event in the life of the school, unless, perhaps, it is a permanent departure. That would certainly be worth celebrating if the supervisor were like the one mentioned.

The arrival of the supervisor, the place he occupies in the classroom, and his departure should all be in keeping with the first principle of technique; namely, that the supervisor should exist for the sake of the teachers and pupils. The greater the power and efficiency of the supervisor, the less conspicuous his presence needs to be in visiting the teachers in the classrooms. The person who resorts to making a spectacular display of his performance of visiting has little to commend him, for he lacks valid means of making his work felt. In other words, it is just a form of bluffing to hide inefficiency. Here, as in most cases, the person who seems to do the least is usually doing the most, and *vice versa*.

Making comments on the recitation. The supervisor should make a good many notes on the recitation. This should be done in such a manner as not to attract the attention of the pupils and not to disconcert the teacher. The teacher will have some difficulty at first, no doubt, in overcoming the tendency to self-consciousness that the writing of notes by the supervisor on the recitation during its progress will produce. The character of the notes and comments will have much to do with helping the teacher to become accustomed to the note-taking, so that he will no longer be

distracted or made anxious by it. The notes should be an accurate account of what actually takes place and the comments should be suggestive rather than critical. Many of the notes should be in the nature of diagnoses of the individual difficulties of pupils, as shown by the actual reactions during the recitation. These diagnoses will be very helpful to the teacher, and will give him a basis for modifying his subsequent procedure. Such a concrete basis would be very difficult if not well-nigh impossible for the teacher to secure during the progress of the recitation. An expert teacher should be able to do this sort of diagnosing in the midst of the recitation, but it cannot be expected of the teacher who is working under supervision.

Delivering the written notes and comments. If feasible a conference between the teacher and supervisor should follow the class to discuss it in a way that would be most helpful to the teacher. If circumstances do not permit this, the supervisor should, as a rule, leave the written notes, comments, and suggestions in closed form; that is, so that a glance at the outside will not disclose the contents. This should be especially true when the notes must be left in the room upon leaving. If possible, the notes should be left in the office, or in a place prepared for that purpose, such as a box of pigeon-holes marked alphabetically and conveniently placed for the use of the teachers in receiving written communications. This plan will avoid curiosity that may be aroused in the minds of the pupils and the anxiety that may be caused in the mind of the teacher. All written notes and suggestions should be in duplicate or triplicate form, so that the teacher and supervisor may each have a copy.

As a final suggestion it may be well to add that all visitation, supervision, and inspection of the work of the teacher should be open and at the same time inconspicuous, as has been suggested above. The visits of the supervisor should

never be of the keyhole-inspection type. The results of the inspection or visit should always be submitted to the teacher. The teacher should always have an opportunity to explain conditions for which he is not responsible, and these explanations should be given due consideration in evaluating the worth of the teacher's work.

2. Criticizing the work of the teacher

Outline form for notes. The supervisor should take careful and accurate notes on the recitation, and base suggestions and criticisms upon the actual acts of the teacher and reactions of the pupils. The work of taking notes may be greatly simplified by using a regular printed form that contains practically all of the points that the supervisor needs to check up on the recitation. This printed form should be so made that a carbon sheet can be used. This will enable the supervisor to give one copy of his notes and suggestions to the teacher, and retain a copy for his own reference. The following outline is suggestive of the points that might well be included in such a form:

SUGGESTED OUTLINE FOR NOTES

I. Physical conditions.
1. Temperature of room.
2. Quality of air.
3. Posture of pupils.
4. Good housekeeping.
5. Discipline.

II. Method.
1. Defects and errors in the application of the principles of method. Description of actual procedure should be given as the basis for pointing out defects and errors.
2. Suggestive outline for correct presentation of same lesson or phases of subject-matter, or for presentation of the succeeding lesson if it employs the application of the

same principles of method. This outline should be in considerable detail, and should contain very definite constructive suggestions as to the application of the principles of method. The key to the principles of method that are applied in the teaching of the lesson is found in the mental procedure of the pupils. This is an important point, and one that should be consciously in the mind of the supervisor as he studies the progress of the recitation.

III. Devices.

1. General.
 - *a.* Lack of effective ones.
 - *b.* Wrong use of good ones.
 - *c.* Wrong devices used.
 - *d.* Good devices used.
2. Special.
 - *a.* Lack of effective ones.
 - *b.* Wrong use of good ones.
 - *c.* Wrong devices used.
 - *d.* Good devices used.

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The supervisor should be careful to get quite full data on the actual use of devices. Constructive suggestions should be made as to how the good devices that were wrongly used should have been used.

IV. Technique.

1. Quantitative data.
 - *a.* Number of times each fault of technique was committed during the time the supervisor was in the room. For example, the teacher may repeat the answers given by the pupils twenty or thirty times during a single recitations. The supervisor should make accurate observations and record them. The teacher will usually be greatly astonished to learn he is practicing such faulty technique in so automatic a manner.
 - *b.* Number of times each good point of technique was practiced during the time the supervisor was in the room. This might not be regarded by some as a criticism. It is, however, a form of positive criti-

cism that should not be overlooked. The supervisor will do well to try to match every negative criticism with a positive one that needs to be retained and perfected.

2. Qualitative data.
 a. Effect of specific acts of the teacher upon the recitation. For example, the constant repetition of the answer of the pupils invariably leads to inattention and indifference on the part of the pupils. It also tends to slow up the recitation, and thus decrease interest. It also consumes a great amount of valuable time.

The supervisor should be careful to warn the teacher repeatedly against thinking that because an application of a principle of method, a use of a device, or a bit of technique is wrong in a particular situation, it is always wrong. On the other hand, the teacher should also be warned against thinking that because an application of a principle of method, a device used, or a bit of technique practiced is right in a particular situation, it is always right. For example, the repetition of the answer of the pupils by the teacher is not always a wrong practice in technique. Its practice, however, in general tends to produce detrimental effects such as were pointed out above. Take as another example the asking of the question first before naming the pupil who is to answer. This practice is in general right. There are times, however, when it is perfectly good technique to name the pupil before asking the question. In other words, the situation, the group of pupils, and surrounding conditions modify the practice in technique and determine very largely whether it is right or wrong. The suggestive criticisms and suggestions of the supervisor should be consistent and persistent in breaking up wrong habits. This should be especially true in regard to the habits of technique.

V. Subject-matter.

1. Lack of knowledge.
2. Errors. These should be carefully tabulated in order that they may be brought to the notice of the teacher.

VI. Results.

1. Accomplishment of aim stated in the lesson plan.
2. Knowledge definitely acquired by the class.
3. Habits positively furthered.

VII. Adherence to lesson plan. If changes were made, were they justifiable? Criticisms of the lesson plans should be made orally, and preferably they should precede the recitation. No criticism of the teacher's work should be made orally during the recitation or in the presence of the pupils.

Rate of procedure in supervision. The supervisor will find it to be of great advantage to attack only a limited part of the above points at a time. The selection of a few of the most obvious and very vital points at a time, and careful consideration of these before taking up another group of points, will bring the best results. The teacher cannot think and watch all the many points in technique and application of principles of method at the same time. If he tries to become master over a small group first, and then another small group, etc., until all the vital and fundamental points have been rounded up and practiced upon, the best progress will be made in habit formation and the most efficient permanent results will be secured.

3. Conferences, and checking-up work

Types of conferences with teachers. The supervisor should hold two types of conferences with the teachers; namely, group conferences and individual conferences. A definite technique for conducting these conferences will go far toward rendering them effective. The following points may well be characteristic of these conferences:

NATURE AND PURPOSE OF CONFERENCES

I. Group conferences.

1. Meet the group of teachers at fixed times, and for a definite period.
2. Make the teachers feel that the conference is an opportunity, and not just a requirement.
3. Encourage the teachers to raise the problems that have come to them in their work.
4. Throw each individual's question and problems open for free discussion by the group. Stimulate the exchange of ideas and comparison of experiences in dealing with the questions and problems.
5. Present general suggestions and constructive criticisms in the form of questions based upon data accumulated during classroom visits.
6. Stimulate discussion of the suggestions and criticisms, so that the teachers themselves determine the correct answers and formulate the procedure that should be followed in setting up more efficient practices.

II. Individual conferences.

1. Meet each teacher for a personal conference at a definite time, preferably each week, to go over the lesson plans for the entire week.
2. Where feasible, meet each teacher for a short conference each day to go over the detailed daily lesson plan for the next recitation.
3. Encourage the teachers to come individually to talk over their difficulties and to consult for advice on special problems. Let them ask for such conferences and arrange the time.
4. Encourage the teachers to come for individual conferences regarding the written notes and comments made on particular recitations. Stimulate the teachers to answer the problems that are based upon these written data so that they become their own critics. One of the important outcomes of supervision should be that of making the teachers critical of their own performances.
5. Present specific suggestions and constructive criticisms in the form of questions and problems based on the above data.

6. Encourage the teachers by specific suggestions to individuals to take the initiative in discovering and solving problems of teaching.

Checking the work of the pupils taught. This is to be done as a basis for constructive criticism of the work of the teacher, as a means for guarding the welfare of the pupils in their progress in the subject or subjects taught, and to insure justice and uniformity in giving marks and assigning the credit that should be given the pupils at the close of the work.

The supervisor should carry out a definite program of procedure in checking up the work of the pupils. The following items are suggestive of what may be done to good advantage:

1. Note the character of the responses made by the pupils in the recitation, as indicative of motivated interest in the subject.
2. Note the individual differences of pupils as to general maturity of physical and mental development, background of knowledge and experience that is helpful in the study of the subject, and rate of progress in mastering the subject. Is the teacher adapting the course to meet these differences?
3. From time to time make a record of marks that should be assigned to the pupils, and compare with the marks given by the teacher for the same piece of work.
4. Examine all quiz questions before they are given; examine and mark a set of examination papers of the pupils, and compare marks with those given by the teacher.
5. Give recognized standard tests at appropriate times during the course, to discover whether or not the pitch of the course is standard and the rate of progress up to the normal possibilities.
6. Test ability of the pupils to learn new subject-matter in the same field and in allied fields.
7. From time to time secure information as to the actual length of time spent in the outside preparation of the lessons.

Assigning grades and marks to pupils. The assigning of grades and marks is a very difficult problem, and requires

excellent technique to insure accuracy and fairness. Therefore the supervisor, in carrying out the suggestions outlined above, should work out definite, detailed technique for grading and marking the work of the pupils. Such technique should involve a number of standards.

The following suggestions have proved practical:

I. Standards of achievement, which designate:
 1. A definite number of fact units.
 2. A maximum and minimum of speed, accuracy, etc., in special habits and skills.
 3. A definite evidence of achievement in general habits and skills.

II. A range of marks which extends as far below the minimum or passing mark as it does above it. For example, if D is passing, the marks should range from A to G. The marks, E, F, G are just as significant in showing how far below the minimum the pupils fall as are A, B, C in giving the upper range.

III. A scheme of grading, that gives definite weight to:
 1. Form, and
 2. Content, according to the nature of the subject and the phase of achievement that is being tested.

IV. A scheme of recording marks that shows the achievement:
 1. Phases (facts, habits); and by
 2. Units within the phases. For example, in arithmetic the pupil might have a mark of A in knowledge of common fractions, and a mark of D in decimals. Likewise he might have a mark of B in speed of adding whole numbers, and a mark of E in accuracy.

The supervisor should make every effort to eliminate the influence of physical condition, mood, prejudice, partiality, over-enthusiasm for the subject, over-sympathy for the pupil, etc., in grading and marking the tests.

Chapter summary. The supervisor should visit the teacher at work almost daily from the very beginning. He should enter and leave the room in an inconspicuous manner, and occupy an inconspicuous position while in the room. He should make detailed notes on the work ob-

served, and deliver these notes to the teacher in such form and manner as not to distract or embarrass the teacher. The criticisms offered upon the teacher's work should cover points in method, devices, and technique, but they should be focused at first upon a few of the most vital points, and be gradually extended as the teacher develops. The supervisor should encourage the teacher, through conference, to discover and solve his own problems. He should safeguard the work of the pupils by checking up their work from time to time, and grading them on their work.

CLASS EXERCISES

1. Give examples, from your experience, of incorrect technique of entering, leaving, and position occupied in the room practiced by a supervisor when visiting a teacher at work.
2. Give examples, from your experience, of good technique in classroom visitation practiced by a supervisor.
3. Make two visits to different classes at work and hand in copies of the notes taken during the visits, in the same form that you would submit them to the teacher visited.
4. Make a blank form for the supervisor to use in criticizing the work of his teachers. Criticize the outline for criticism of the teacher's work that is given in this chapter, and show how it can be improved.
5. Make five visits to different teachers, and hand in copies of lists of the most obvious vital points in method, devices, and technique that might well be attacked first by the supervisor in developing these teachers.
6. Plan in detail a group conference with teachers you have visited, and show how you would lead them to raise the teaching problems and carry on the discussion of them.
7. Make a suggestive outline that you might give to teachers to help them in becoming critical of their own performances.
8. Visit a class at work, report in writing the motives that seem to influence the pupils, and give the types of responses upon which you determine the motives.
9. Visit a class at work, and make a written report of the kinds and ranges of individual differences discovered during the recitation.
10. Visit a class daily for a week, and grade and assign marks to the class according to the suggestions given in this chapter under "Assigning grades and marks to pupils."

CHAPTER XV

ESTIMATING THE WORTH OF THE TEACHER

Considerations in estimating success. The estimate of the success of the teacher is based upon two large considerations which are so related as to make the relative emphasis that should be given to each very difficult to determine. The one consideration is the success of the teacher in mastering the principles of method, his resourcefulness in inventing devices, his success in acquiring skill of technique, and his independence of thought in analyzing new teaching situations and of action in meeting them. The other consideration is the results of the teacher's work, which are shown by a careful checking-up and measuring of the work of the pupils who are under the teacher's charge. This second item is the gauge that is used ordinarily by school people and the general public in deciding the success of the teacher, and very often the teacher is held responsible when the pupils and other individuals should bear the blame. The teacher might be highly successful from the standpoint of the first consideration, and still fail to accomplish the desired results in the work of the pupils because he is too consciously absorbed in achieving mastery over the items of mere teaching. If, however, the teacher has such mastery of the science of teaching that he subconsciously adapts it to the achievement of desired results in the work and lives of his pupils, the failure of the pupils can surely not be charged to the teacher. Conditions over which the teacher may have no control may obtain to the degree that the most expert teaching cannot succeed in accomplishing the desired results. Conditions may be such that the pupils themselves are not to be blamed for failure.

On the other hand, the teaching may be poor, and yet the pupils show very satisfactory results when their work is checked. That is to say, the pupils may be getting outside of school from other sources the training that the teacher is supposed to be giving them. Hence, judging the efficiency of the teaching, without seeing and carefully studying his work, by the tests which the pupils may be able to pass, is not sound practice. The conclusion seems evident that in order to place the correct relative emphasis upon these two considerations in deciding the success of the teacher, the supervisor must check his measure of the performances of the teacher against the results shown by tests given to the pupils, and at the same time account for the other factors that in any given situation have had much to do with determining the effectiveness of the teacher's work.

The rating of teachers. The rating of the teacher as measured by the first consideration just set forth requires a most careful study and accurate analysis of the teacher's classroom performances, in the light of a definite set of standards. Vague generalizations and broad guesses must give way to scientific analysis and accurate measurement. If a set of definite standards cannot be set up, by means of which the efficiency of the teacher can be reliably measured, then the rating of teachers should be abandoned altogether. The standards that are used must involve many detailed points, but each point must admit of definite measurement. That is to say, each point must be objectively exhibited in the performance of the teacher. If other points than those that can be objectively measured seem desirable, these points should be given under the head of general impressions and personal reactions.

A number of schemes for rating teachers has been devised. These have been used with varying degrees of success. The main point that must be kept in mind in the use of any

scheme is that of carefully analyzing the evidences secured in valid ways and basing all estimates upon the results of such analysis. The outline that follows in this discussion is merely suggestive of the sort of detailed analysis the supervisor should make of the teaching performances of his teachers.

Suggested outline for teacher rating

Intellectual ability. The future growth and development of the teacher is largely dependent upon his native intellectual ability. The present efficiency of the teacher is also greatly determined by the ability that he has to grasp the various situations presented from day to day in the schoolroom, and to think intelligently about them. Since the supervisor is concerned with both the present performance of the teacher and the promise it holds for his future efficiency, he should make a careful study of the various evidences that come under his observation and estimate this factor of intellectual ability as accurately as possible. The employment of standardized intelligence tests may be the most reliable means of determining this factor, but such tests should be given only by experts. Even then the check of practical observations of the teacher's keenness of intellect is desirable and invaluable in determining the rank of the teacher in this trait.

General scholarship. One very important item in the efficiency of the teacher is his general scholarship. The individual who possesses a wide range of knowledge, and especially an intelligent acquaintance with many fields of modern activity, will be able to present the specific problems in any particular subject in their relations to broader problems and fields of subject-matter. The supervisor should check up the range of the teacher's general training and experience, including high-school, even elementary-

school work, college courses, and industrial, professional, civic, and social activities that the teacher has engaged in specifically and definitely. He should study the influence that this background of training seems to have upon the teacher's efficiency, and be able to advise him as to the lines in which he needs to extend his general equipment and development.

Special scholarship. The item of scholarship that most immediately and most noticeably affects the teacher's efficiency in the classroom is his special knowledge of the subjects he is teaching, and his knowledge of the science of education, particularly his mastery of the science of teaching these particular subjects. The supervisor needs to know the range of training that the teacher has in the subjects he is teaching, and the training he has received in subjects closely allied to them. Moreover, he should know the general degree of success with which the teacher has dealt with these bodies of subject-matter. The supervisor should in like manner know the range of professional subject-matter studied by the teacher, and the degree of success with which he has pursued these studies.

The efficiency of the teacher in dealing accurately with the facts in the subjects he teaches should not only be carefully checked up, but inefficiency at any time should be accounted for as far as possible in terms of the teacher's training in these special subjects. The supervisor should be able to judge whether or not the present inaccuracies of knowledge exhibited in the teacher's work will likely disappear with experience as the specific training in the subjects has more and more opportunity to be used, or whether the teacher needs more specific training and study in certain aspects of his special lines of work. The supervisor should keep in mind the important fact that he is not only estimating the present efficiency of the teacher's knowledge, but

that he is also predicting the future efficiency as indicated by the range of training and present measure or rank.

Ability to express thoughts. The most important item in expression of thoughts is fluency and correctness of English. The teacher who lacks command of a vocabulary that is not only appropriate to the subject being taught, but that is also appropriate to the language ability of the pupils being taught, is not an efficient teacher, no matter how fluent and correct his speech may be. The test of ability to express thoughts, then, is in what the pupils get readily and clearly from the language of the teacher. All other things being equal, fluency of expression will no doubt contribute to the readiness with which the pupils grasp what the teacher says, and correctness will have an influence upon the language habits of the pupils.

A second factor in expressing thoughts is the quality and control of the voice. The teacher may use appropriate words and fluent, correct sentences, and yet fail to make his ideas clearly and readily understood because he has such a shrill, explosive, rasping, muffled, or other disagreeable quality of voice. Not only the quality of voice, but its control, has much to do with the readiness of comprehension on the part of the listener. A monotonous or lifeless tone of voice does not carry thought as does the well-modulated yet vigorous voice. The power of the voice must be regulated to suit the size of the room and the character of the discussion, as well as the age of the pupils. Young pupils may be frightened by the too loud, or be soothed by the well-regulated force of the teacher's vocal expression. The teacher needs to know both his present effectiveness and his future possibilities in regard to his voice as a factor in expressing his thoughts.

Teaching ability. This item should be confined to those factors that bear immediately upon the preparation and

presentation of subject-matter. A number of details figure in this, and they should be critically studied over a considerable period of time in order to get an accurate measurement of each point. As many concrete evidences as possible should be accumulated under each point suggested in the following discussion.

1. Mastery of the principles of method. The test of efficiency on this point is in the recognition the teacher gives to the mental procedure going on in the minds of the pupils during the recitation, and the degree to which he anticipates what the mental procedure will be in the study preparation of the pupils. The mere fact that the teacher organizes subject-matter in the form of inductive or deductive problems does not indicate a mastery of the principles of method. The attempt of the teacher to have pupils memorize materials by the "whole method" rather than by the "part method" does not show that he understands the pedagogical principles involved. The crucial point is, does the teacher have an intelligent conception of what the minds of the pupils are doing in the learning of whatever it is he is undertaking to teach them? This test cannot be applied by mere observation of the classroom performance. Critical discussions with the teacher before the recitation, and also after, to get definitely what he anticipates will happen and what he realizes did happen, are necessary in making an accurate measure of the teacher's efficiency, so far as it is indicated by his mastery of method.

2. Intelligence and resourcefulness in selecting and adapting devices. Devices are invented, and no set of inventions that fits one situation or one type of situation just exactly fits another situation or type. The teacher should show that he knows what each pupil needs to further his learning, and when to discard devices that become tasks rather than aids to the pupils. The fact that the teacher can enumerate

glibly the general range of devices that have customarily been used in teaching a subject or any phase of a subject, and the use of these devices in his teaching, is not necessarily evidence of his efficiency. The supervisor must get into the thinking of the teacher and find out why he made this selection or that selection of devices, this modification or that modification, and why he failed to modify or even discard this or that device in the face of a given situation. The observation of the devices used by the teacher may disclose accidental success or failure when the data are checked up with the teacher and carefully analyzed. The objective data secured by keen observation are absolutely necessary in measuring the efficiency of the teacher in respect to devices, but the data must be evaluated and not just taken at face value.

3. Definiteness of lesson planning and skill in following the plan. This is largely a matter of habit, and the supervisor cannot measure it by scrutinizing a few written plans and by visiting a few recitations. This habit must be studied as it manifests its efficiency in all types of subject-matter and various recitation situations.. It involves a clear conception of the aims of education and the specific purposes for which the subject is being taught. Definite planning must mean worth-while planning as well as ability to organize a plan of action and then to carry it through. The supervisor must get an insight into the teacher's thinking about the purposes the teacher is trying definitely to realize in his teaching, ultimately and immediately. Knowing this the supervisor can judge how definite the teacher's plans are and how thoroughly he realizes them. Then, upon a sufficient amount of objective data in the way of written plans and teaching performances based on these plans, a reliable measure can be made of the degree to which the habit has been formed.

4. Skill and reliability of technique. This item of effi-

ciency is a highly important one, and the supervisor should secure a vast amount of objective data that reliably shows the degree to which typically good habits have been well formed, and the extent to which typically bad habits are practiced by the teacher. A large number of visits, that insures the witnessing of the teaching of different types of materials and teaching under different conditions, is essential to discover the many points in technique necessary to the highest degree of efficiency that should be expected of the teacher. Good days must be checked against bad days, good conditions against poor conditions, etc. The ability to adapt his technique to suit conditions, rather than following supposed typical good forms of technique blindly, should be taken as one of the chief tests of the teacher's efficiency in technique.

5. *Ability to secure desired results.* This factor in the teacher's efficiency must be measured by a somewhat definite standard or set of results that can be objectively demonstrated. The supervisor can secure such objective data only by the most careful study of the reactions of the pupils during recitations and study periods. All formal results in the way of skills and knowledge of facts may well be tested by means of standardized tests, and examinations. The following list of results is suggestive of what might well be taken as the basis for judging the teacher's ability to secure measurable results:

1. Motivated interest in the subject or subjects taught.
2. Faithful consistent effort in pursuing the study of the subject.
3. Achievement in knowledge of subject-matter.
4. Special habits and skills, according to the nature of the subject. These habits may be speed and accuracy, such as are demanded in mathematics, shorthand, typewriting, etc.
5. General habits and skills, such as:
 a. Technique of organizing subject-matter and of using

books, materials, and apparatus in the solution of problems.

b. Habits of study and methods of attacking subject-matter with initiative; power to analyze new situations and new subject-matter; and power to apply knowledge to the solution of new problems.

c. Habit and power of concentration of attention for long periods of time.

6. Ability to test and grade definitely and accurately the work of the pupils. The fundamental aspects of this factor are, the ability, first, to devise fair and reliable tests and examinations for measuring the attainments of the pupils, and second, to evaluate accurately the data secured from the pupils on their tests and examinations. Such tests and examinations must be adapted to the maturity and development of the pupils in any particular grade or class. The teacher must demonstrate his knowledge of the principles underlying all forms of tests, his ability to devise good devices for administering them, and his skill in technique in devising, administering, and evaluating the tests and the results secured from them. The supervisor must study the teacher as he carries on all these phases of the testing performance, and base his measurement of this factor in efficiency upon a considerable amount of objective data.

Ability to manage and discipline. This ability involves two general problems of management; namely, the management of the classroom and the management of the pupils.

The management of the classroom includes the orderly arrangement of chairs, maps, apparatus, and other physical equipment, according to the purposes of the recitation, and the routinizing of attention to such matters as ventilation, temperature, and light.

The management of the pupils may be analyzed into a number of very definite points, which can be measured on

the basis of concrete evidences. The following items are suggested as worth considering and measuring definitely:

1. Understanding of proper standards of conduct, according to the age of the pupils and the school conditions.
2. Understanding of rational measures of discipline that are adequate to maintain the standards set up.
3. Conception of the purpose of discipline, which involves the idea that discipline should be constructive education for the development of character through social behavior, as opposed to the idea that it is a form of penal atonement for wrong conduct.
4. Understanding and appreciation of the different types of pupils.
5. Ability to adapt the measures of discipline to the different ages and types of pupils.
6. Ability to select the measures of discipline, for each case, that are logical in relation to the nature of the offense and the constructive results that are to be secured through discipline.
7. The ability of the teacher in administering disciplinary measures to be impersonal, businesslike, and self-controlled instead of personal, haphazard, flustered, timid, and unreasonable.

The supervisor should study the teacher's performance in handling a number of cases of discipline, in order to secure concrete data on as wide a range of types and individual cases as possible. The general estimate of the teacher's efficiency in managing pupils should be based upon a careful measurement of each detailed point set forth above. Moreover, the teacher's whole conception of discipline as related to human behavior should be got at through critical discussions, based upon some well-defined philosophy of education by means of constructive discipline.

A philosophy of school discipline. The supervisor may be helped in getting a definite philosophical basis for judging the efficiency of the teacher's ability to administer disciplinary measures, as a form of constructive education, by studying the suggestions given below and by getting his teachers

to adopt them as the guiding point of view in their disciplinary procedure. The suggestions cover not only the fundamental principles of a philosophy of discipline, but to some extent important devices and forms of technique. The writer has found these suggestions very helpful in this particular form, hence they will be submitted without further detailed discussion of them.

A Modern Point of View of School Discipline

1. No act of discipline and no form of punishment should ever be administered as a penalty for the offense committed, but as a means of making the offender realize that the real wrong is his attitude of mind, his willingness to commit such an act, and that the only amelioration of the offense is to change his attitude.
2. No act of discipline and no form of punishment should be administered in such a way as to make the offender an example before the school, but in such a manner that the offender is made to feel he is given an opportunity to redeem himself by personal help and advice of the teacher, without his weakness being paraded before public gaze.
3. Rules and regulations should be clearly set forth at the outset, and the function that they are to serve in promoting the welfare of the school as a whole carefully explained; but thereafter each offender should be talked to individually, even though several may have committed the same offense at the same time. Seek the confidence of the individual, and make him feel that his integrity in facing the situation fairly can be trusted.
4. Make pupils feel that the teacher's presence and watchfulness are just as helpful in overcoming weaknesses of conduct as in overcoming difficulties in his other lessons.
5. Look upon misconduct of pupils as an opportunity to do a piece of real work in education, remembering that it is the character of the individual and not personal satisfaction or justification that is to be sought in discipline.
6. Hold up clearly high standards of conduct, good order, and work.
7. Meet pupils in personal conferences in order to bring about a

definite understanding with them as to what is expected of them. This is one of the best ways of making the pupil feel his responsibility to the school, and also of establishing a close, friendly tie between teacher and pupil.

8. Never hold up one pupil as a model to another, and never discuss the conduct of one pupil with another. Hold up ideals of group welfare, and seek the coöperation of each pupil in realizing the ideals.
9. Be alert and accurate in interpreting the acts of pupils so as to anticipate their conduct, and to start counter-suggestions to prevent undesirable behavior.
10. Decide quickly and act promptly.
11. See and hear everything that goes on in the room, in the halls, on the playground, on the street, and in public places where the conduct of pupils may be observed.
12. Have a dignified, firm bearing, attitude of sureness of self, and just what is going to be done.
13. Control of temper; keep cool in emergencies.
14. Do not have a chip on the shoulder; be not supersensitive, and not easily upset by aggravating things.
15. Be willing to go more than halfway to meet a pupil who is being disciplined.
16. Never announce in advance what the punishment will be for any offense, and never threaten what will be done in any case. The pupil is sometimes led to commit an offense because he has contempt for the punishment.
17. Make the punishment the logical consequence of the offense.
18. Do not talk to people outside of school about disciplinary problems and measures that have been administered.

Personal appearance. The appearance of the teacher is affected by two factors, namely, physical development and health and dress and carriage. The supervisor should note the effects of these two factors during a sufficient period of time to enable him to know quite definitely whether the teacher has the strength to keep up a vigorous program of work, and whether his habits of dress are in keeping with school work and school conditions. Good looks are so much a matter of personal taste that the supervisor cannot meas-

ure them and rate the efficiency upon them with any degree of assurance. If the supervisor feels that he should make some statement in regard to looks, he should give the statement as merely his own personal judgment and impression.

Qualities of leadership. This is an important item, and the supervisor should secure definite data on the recognition that is accorded the teacher by his fellows, and the people with whom he associates in different lines of activity, and the recognition he receives from his pupils. The efficiency of the teacher in leadership is shown not so much by mere popularity as by the number and kinds of demands that are made upon him in assuming the lead in carrying on worthwhile group enterprises and activities. Another evidence of leadership is shown in his ability to initiate ideas and ideals, and to influence people to adopt them. An abundance of concrete cases should be the basis for measuring this factor in the teacher's efficiency.

The ability of the teacher to direct and to participate in the social activities of the school, such as assemblies, parties, commencements, etc., affords an excellent opportunity for measuring leadership by concrete evidences. Note should be made of the critical situations that arise in which the teacher was able to take the initiative, and to keep it in the face of difficulties. The measure of the degree to which the teacher is able to assert leadership, as shown by such evidences as have been suggested, is important, but the character and quality of his leadership and influence should also be given consideration. Granted that the teacher will lead, then his moral and religious habits and tendencies will determine the character of his leadership. This point should not be made an orthodox one, but just one of good common sense, and the supervisor should have more than a mere impression of what the quality of any teacher's leadership will in all probability be.

Professional attitude. This factor is shown by the spirit of cöoperation with which the teacher enters into his duties, and the promptness with which he performs them. Another evidence of professional spirit is the earnestness with which he makes efficient service his chief concern. Another item is the loyalty shown to his fellows and his superiors, through keeping still on the outside of school concerning matters that are discussed in teachers' meetings, or in the office as strictly school affairs; boosting the school as a whole; boosting the work of the superintendent, the supervisors, and his fellow teachers; supporting the musical, literary, and athletic organizations and enterprises; and taking active participation in the social affairs of the school. A still further manifestation of professional attitude is the extent to which the teacher reads recent educational books, magazines, and daily newspapers; attends teachers' institutes, associations, and other educational meetings; attends public lectures and general gatherings of public interest; and participates in parent-teacher oganizations and other civic enterprises.

Type of school in which the teacher would be most efficient. This is one of the important points and is recognized to-day as an important responsibility of the supervisor. The teacher who is well adapted to kindergarten and primary grades may be a very indifferent teacher in the intermediate or upper grades, and *vice versa*. A good senior high school teacher may be a failure in the junior high school, and *vice versa*. A teacher poorly adapted to teach in the senior high school might be a very successful teacher in the junior or senior college, or in a normal school. The best means for determining just what type of school the teacher is best adapted to would be that of trying the teacher out in each type of school. This cannot always be done; hence other means will have to be employed. Having the teacher visit the various types of schools and make careful reports

of their observations, and discussing these reports with the teacher to discover his own idea as to what particular school situation appeals most to him, may be made a very helpful means of determining the right placement of the teacher. Whatever means the supervisor may have at his command for deciding this point should be used as fully as possible, and whether these means happen to be ample or meager the supervisor should make some decision as to the field or fields for which he would recommend the teacher with assurance.

Type of community in which the teacher will be most efficient. Determining the type of community in which the teacher would be likely to do his best work is quite as important as deciding the type of school or the particular grade of work for which he is best fitted. The rural district, the small town, the small city, and the large city each presents conditions that differ widely in the demands they all make upon the teacher. Not every individual possesses the power of adapting himself to such a wide range of conditions to the extent that he would be successful in any or all of these types of communities. Even a teacher well adapted to teach in a large city might be successful in a native-population ward and a failure in a foreign-population ward, and *vice versa*. Here again the supervisor needs to employ about the same means that have been suggested above for determining the type of school in which the teacher should be placed.

The critical point. The critical point in the measuring of the teacher's efficiency is that objective data and thorough analysis of all the elements involved must take the place of subjective impressions. Objective data and careful analyses cannot be secured through a few hasty inspectional trips or visits to the teacher's classroom. The rating of teachers on inspectional data and impressions is educationally un-

scientific, and the practice should be replaced by that thorough supervision which can guarantee reliable measurement of teaching efficiency.

Chapter summary. The worth of the teacher can be estimated only by a careful study of the actual teaching performances, and by accurate measurement of the attainments of the pupils which can be accounted for in terms of the teacher's work. Objective data must be the basis for all of these estimates and measurements. Definite standards must be set up that shall include only such items as admit of objective measurement. The large items of such standards might be: intellectual ability, scholarship, ability to express thoughts, teaching ability, ability to manage and discipline, personal appearance, qualities of leadership, professional attitude, and type of school and type of community to which the teacher is best adapted. The rating of teachers cannot be adequately done through hurried inspectional visits, but must be accomplished through adequate supervision and scientific measurements.

CLASS EXERCISES

1. Give ten illustrations, from your experience, of practical evidences of intellectual ability.
2. Make a list of the subjects that would make the best general background for all elementary-school teaching.
3. Make a list of the special subjects, including the professional training, that would adequately prepare elementary-school teachers.
4. Make a list of the subjects that would make the best general background for junior or senior high-school teachers.
5. Make a list of special subjects, including the professional training, that would adequately prepare junior or senior high school teachers.
6. Give two cases, from experience, in which the teacher failed to make himself understood on account of failure to employ a vocabulary adapted to his pupils.
7. Give two cases, from experience, in which the teacher's fluency or lack of fluency of language contributed to or hindered the readiness of comprehension on the part of the pupils.
8. Give two concrete cases to illustrate how the quality and control of

the teacher's voice materially aided or interfered with making his thoughts readily understood.

9. Give two examples of actual teaching performances that showed the mastery of the principles of method involved. Give two examples that showed the lack of such mastery.
10. Give two examples of actual teaching performances that showed mastery over the employment of devices. Give two cases that showed the lack of such mastery.
11. Give two cases of actual teaching that exhibited good technique. Give two cases that exhibited much poor technique.
12. Give concrete illustrations of reactions of pupils that demonstrate properly-motivated interest in the subject.
13. Devise a set of standards that you would employ in measuring the teacher's ability to test and examine pupils.
14. Give ten concrete disciplinary cases of the kind you would take as evidence of the teacher's ability in disciplining.
15. Give two cases to illustrate how dress may affect the teacher's efficiency.
16. Give six concrete illustrations of the sort of leadership that is desirable in teachers.
17. Give five illustrations of unprofessional attitude on the part of teachers.
18. Construct a score card that can be used over a long enough period of time to accumulate accurate measurements of all the items you would include in your standards for grading the teacher's efficiency. Compare this card with those that have been devised for use on inspectional visits.

CHAPTER XVI

ESTIMATING THE WORTH OF SUPERVISION

The need of evaluating supervision. Supervision has come into the public schools and into training schools in response to a pressing demand for the improvement of teachers during their period of service and for the better training of teachers before they enter the teaching ranks. It has come in, however, as most things have come into the educational field, on broad general ideas and theories. Gradually the work of supervision has become more and more specific and less and less general, until to-day it is recognized as a definite educational science distinctly set off from the job of teaching, on the one hand, and from the job of administration, on the other hand. The growth and development of this relatively new science will be determined by the worthwhileness of the contribution that it makes to the training of teachers and to the improvement of the work of the public schools. Moreover, the value of the contribution that is made to education by supervision can be determined only by definitely and accurately measuring the results of the various supervising activities. The results of the supervising activities cannot be adequately measured without the employment of a set of standards that are based upon objective data. Therefore the chief purpose of this closing chapter is to set forth what seem to be the fundamental principles that should underlie any program of procedure in attempting to measure the work of supervision adequately.

Taking stock as to supervisory efficiency. One of the first facts that must be recognized is that just as poor and inefficient teachers have come into the profession, and con-

tinue in the profession, just so have poor and inefficient supervisors got into the profession and continue in it to the detriment of both the science of teaching and the science of supervision. Hence, when the results of supervision begin to be accurately and adequately measured, the natural outcome will be the disclosure of very glaring deficiencies. This was exactly the case when the work of teachers was submitted to anything like a critical test and measured objectively instead of taking mere subjective impressions as the criterion. The schools were not closed, however, and the teachers were not discarded as unprofitable means of promoting the education of the rising generations. Quite the contrary.

The very fact that the teaching activities could be objectively measured disclosed the possibility of overcoming the deficiencies and of removing them through training. The same result can be expected with regard to supervision; namely, that the very fact that supervision can and will be measured objectively will disclose the possibility and the opportunity for improving the science of supervision. Therefore the more thoroughly and in detail the work of supervision is measured, the sooner these weaknesses will be eliminated through training. Another fact which is supplementary to the fact that has just been discussed needs to be kept in mind. This is the fact that just as poor teaching may make the work of poor pupils still poorer and interfere with the progress of the better pupils, just so may poor supervision make poor teaching poorer and interfere with the progress of the better teachers. The true worth of the teacher as a means to the education of pupils, however, came to be recognized beyond the shadow of a doubt through the excellent work of individual teachers. These good teachers, scattered here and there throughout the profession, have been the leaven that has saved the whole professional lump from falling flat. What has been true of the

teaching ranks can be predicted with full assurance of the supervisory ranks. Despite the presence in the field of many poorly prepared and ineffective supervisors, the work of the ever-increasing number of excellent supervisors will save the day and secure the establishment of supervision as an absolutely essential part of the educational machinery. This fact is another reason why supervisors and administrative officers should be vitally interested in the development of a definite set of standards for measuring the work of supervision, and all should be concerned with making the findings of such objective measurements known to the educational public.

Two steps involved in measuring supervisory efficiency. The problem of measuring supervisory efficiency resolves itself primarily into two definite steps or divisions; namely, the setting-up of a set of fundamental principles and the organizing of a program of procedure based on these principles. The principles involved in the measurement of supervision must necessarily be the same for all cases and for all educational situations in which supervisory activities are carried on. On the other hand, programs of procedure that may be employed in applying these principles to the measurement of supervisory work will vary according to the conditions prevailing in the various school situations. The establishment of a set of general principles requires common agreement, while the organization of a program of procedure must be largely a matter of individual judgment. The first objective, then, in this discussion is to set forth a body of principles or fundamental considerations that may very well be accepted as a guide in establishing programs of procedure in measuring supervisory efficiency. The second objective is to suggest programs of procedure that may be helpful in measuring the work of supervision in different types of educational situations.

I. The Principles involved in measuring Supervisory Efficiency

The fundamental considerations that should guide all administrators and supervisors in measuring the work of supervision carried on in their schools are necessarily few in number. They will be stated as concisely as possible and will be discussed somewhat briefly. The ultimate interpretation of each principle must necessarily rest with the individual superintendent, principal, supervisor, and director who works out the application of these principles in the form of a program of procedure that is practicable in his particular school situation.

Principle One: Set up definite attainable goals or outcomes that are to be realized by means of the supervisory activities. This principle seems quite obvious from the mere statement of the point. It involves more, however, than appears at first thought. The setting-up of definite outcomes that are to be realized through supervisory activities requires a definite recognition of the status of these outcomes at the outset of the undertaking. For example, suppose that the superintendent desires to improve the work in penmanship in his schools and secures a special supervisor for that purpose. The superintendent needs to have some definite evidences as to the status of handwriting in his schools when the supervisor takes charge of the work. He must also have a clear idea of what may reasonably be accomplished through effective supervision. Then, when he checks the status of handwriting at the close of the year against the status at the beginning of the year, he has a fairly accurate idea as to the extent to which his expectations have been realized.

Principle Two: Designate definite types of objective data that may be taken as evidence of supervisory efficiency.

This principle is a very important one, for it aims at getting away from general impressions and subjective influences. Then, too, it is highly practical. The work of supervision ought to secure tangible results that can be expressed in concrete form. These concrete evidences ought not to be so difficult to secure as to make the application of this principle at all impossible or to any extent impracticable.

Principle Three: Secure designated types of objective data from as many accurate and reliable sources as possible. The types of objective data and the reliable sources from which they may be secured will vary according to the conditions prevailing in the various educational situations in which supervisory work is undertaken. It must be recognized that the extent to which this principle can be applied in any program of procedure in measuring the results of supervision will be determined largely by the time limitations forced upon the administrator by his many other administrative duties. The validity of the principle, however, is unimpaired by the fact that existing conditions often make it physically impossible to do much toward embodying it in a specific program of administration. The important point is that the administrator should recognize the validity of the principle and employ the best devices and technique that are possible and practicable in applying it to his particular situation. If the administrator recognizes types and sources of securing objective data that would in his judgment be worth while, but which are impossible for him to secure under present conditions, he may find it possible to make his school board realize the situation and thus secure such provisions for administrative assistance that he would be able more effectively to apply this principle in the measurement of supervisory efficiency. Very much depends upon the worth-whileness of the attainable goals set up to be realized through the supervisory activities. If these outcomes are

of far-reaching importance in the future growth and development of the schools, then the administrator might feel justified in expending a great amount of time and energy in securing ample evidences of their realization. If, however, these outcomes, while highly valuable, do not outrank a number of other outcomes that must be secured by other means, then, to be sure, they can claim only a due portion of the administrator's time, and excessive provision cannot be made for demonstrating their realization. Considering all these points, it becomes clear that the interpretation of the word "possible" must rest with each administrator who undertakes to inaugurate a specific program of procedure for the measurement of supervisory efficiency.

Principle Four: Study the supervisory performances themselves as evidence of the efficiency of supervision. The application of this principle involves, first, a quantitative study of the duties performed by the supervisor, and, second, a qualitative study of supervisory performances. The quantitative phase of this study is most readily accomplished and is one that the administrator is not likely to neglect. He depends upon it to a great extent as the means of determining whether or not the supervisor has faithfully attempted to accomplish the outcomes for which he was employed in the schools. Take the example of the writing supervisor given above as an illustration. The administrator wants to know what instructions have been worked out by the supervisor and put in permanent form for the teachers; what details of instruction have been given through a series of conferences with groups of teachers; how much time the supervisor has spent in each classroom either teaching the class or directing the work of the teacher; etc. In other words, he wants to know as fully as possible all the duties performed by the supervisor and the extent to which each duty has been performed. If in his judgment these

various performances are worth while, he has some basis for believing that the improvement in writing that may be apparent at the close of the year has been largely due to the work of supervision. Moreover, he has some basis for believing that particular cases that show little or no improvement may be accounted for on some other ground than that of inefficient supervision. The very quantity, then, of supervisory performances may be taken as one of the valid evidences of the efficiency of supervision.

The qualitative study of supervisory performances is not so readily accomplished and is dependent largely upon the time limitations and geographical conditions under which the administrator works. The qualitative study can be made only by actually observing the supervisor at work with the teachers and in the schools. If the administrator has several supervisors in his schools, the possibility of observing the work of each is necessarily very limited. This fact, however, does not invalidate the principle. Every administrator will no doubt agree that to judge adequately the quality of supervisory performance one must have sufficient opportunity to study the actual performances. The fact must be recognized, however, that no matter how important the administrator may consider the qualitative study of supervisory activities, he is often so limited by time and distance that he cannot apply this principle to any great extent in a specific program for measuring the efficiency of supervision. The important point is for the administrator to determine the importance of this study as compared with the other principles and to make whatever provision is possible for its application, and finally to make its application just as effective as conditions permit.

The consideration of principles gives psychological perspective. The value of psychological perspective is in general recognized as meeting one of the essential needs in

establishing good practice. The above body of principles furnishes such a perspective to the administrator who is undertaking to establish a constructive and progressive program of procedure in measuring the efficiency of supervision. These principles present a coherent scheme, a definite background against which any particular supervisory situation may be projected to determine the limitations of the program or plan of measurement that is practicable in that particular situation. The projection of particular situations against such a background of principles insures that whatever is undertaken in the plan of measuring supervisory efficiency will be psychologically sound. This will be just as true of a brief program as of the most detailed and extensive program. In other words, the difference between measurement programs will be that of extent and detail and not a difference in content or principle of procedure. Furthermore, if programs of procedure in measurement of supervisory efficiency are constructed on such a body of principles, they may be expanded and developed without change of basis as changing conditions in school situations make possible the development of more adequate facilities for conducting the work of the supervision of instruction.

II. Programs for measuring Supervisory Efficiency

The fact has already been stated that the ultimate interpretation of the above body of principles will rest with the individual administrator who undertakes to measure the work of supervision systematically and definitely. Each administrator will necessarily be limited in his formulation of a plan by the conditions prevailing in his particular school system. This fact makes it impossible for any program to be outlined that would exactly fit any situation other than the one upon which it is based. The only helpful thing that seems feasible to do is to outline programs that have proved

effective in the various types of supervisory situations and to suggest possible modifications according to the conditions prevailing in the particular system in which any of these plans are adopted.

Measuring the supervisory activities of the superintendent. There are many school systems in which the only provision yet made for the supervision of instruction is that afforded by allowing the superintendent part time for the visitation of classroom work. The superintendent in such situations usually teaches part time in the high school and divides the remainder of his time between the necessary administrative duties for which he is responsible and the visitation of teachers at work. As a rule the superintendent desires under such conditions to give all of his time to administrative and supervisory duties. This conception of the superintendent's function is growing, not only in the minds of superintendents, but also in the minds of school boards; hence the tendency to-day is for superintendents to seek more and more relief from clerical and other routine administrative duties, on the one hand, and entire relief from teaching, on the other, and to give more and more time to the supervision of instruction as the best means of developing the work of the public schools. In order to secure the maximum of opportunity for doing supervisory work, the superintendent must convince his board that the supervision of instruction is of more importance than certain administrative details that might very well be taken care of by competent clerical assistance or by board committees. The most convincing evidence that can be presented to any board is that of tangible improvement in the work of the schools that is due directly to efficient supervision. Therefore the superintendent in this type of situation needs to formulate a plan that will enable him to measure the results of his supervisory activities and to present them to his board.

Points to be kept in mind. The first point that the superintendent should keep in mind is the wisdom of limiting his supervisory undertakings to very definite and tangible goals that are sure of attainment. For example, the superintendent may realize that his schools are below the standard of other schools in the teaching of arithmetic. A survey of the status of the case may convince him that this condition is due to a poorly constructed course of study and to inferior teaching. He can now proceed with some assurance to formulate a plan for measuring the supervisory activities that he plans to carry on as the means of bringing about the desired improvement.

The following plan is suggestive of what might well be undertaken in such a case and will prove economical as well as satisfactory:

A. Goals or outcomes to be attained.
 - *a.* A course of study adapted to the needs of the schools and in keeping with the modern aims of public school education.
 - *b.* A higher standard of scholarship or efficiency in the learning of arithmetic.
 - *c.* A higher standard of efficiency in the teaching of arithmetic.

The status of each of these goals should be definitely established before the work of supervision begins. A survey of the course of study will readily disclose how many pages of material there are that are obsolete or poorly adapted to each grade, and how many pages of really worth-while usable material the course contains. These results can be tabulated grade by grade on a chart and graphically presented to the attention of the board and the corps of teachers. The chart should be so constructed that the status of the course of study at the close of the school year can be tabulated on the same chart in contrast to the status at the beginning of the year.

The status of the second goal can be shown readily by plotting the monthly averages in arithmetic grade by grade for one or two preceding years. Standard tests in arithmetic may also be given and the grade averages plotted on a single graph. All this tabular work can be done by clerical help or by the aid of the teachers, so that the data can be economically and yet accurately compiled. Here, again, the charts used should be so constructed as to enable the tabulations of similar data at the close of the year to be recorded on the same charts in contrast with the first data.

The status of the third goal cannot be so readily established at the outset, and in the end it is necessarily bound up with the second outcome. Nevertheless, it will be well worth while to set up some basis of contrast other than that afforded by the standing of the pupils. The most feasible basis, perhaps, is that of the teachers' general success grades or ranking marks. If arithmetic is one of the most poorly taught subjects, then no doubt the general success grades or ranking marks are a fair measure of the teachers' success in teaching arithmetic, for it seems fair to assume that the success of the teachers in teaching arithmetic must have had a good deal to do with determining their success grades or ranking marks. One of the purposes of the supervision of instruction should be to improve the teaching to the extent that ultimately all the teachers will be in the highest rank. It is not only possible but desirable to have wide ranges of individual differences in a group of E teachers. A general plot of the preceding year's success grades or ranking marks of the whole corps of teachers may be made at the outset and a contrasting plot made upon the same chart at the close of the year when the new success grades or ranking marks have been issued.

Types of data that will be accepted as proof of supervisory efficiency. In this case practically all the essential forms of

data have been designated in establishing the status of the objectives at the beginning of the school year and in providing for the contrasting data showing the status at the close of the year. Other types of data might be employed, but the general results would not be materially changed by their use; therefore the use of such data would consume time and energy that would be largely lost.

Sources from which valid data may be secured. Here, again, the establishment of the status of the goals at the beginning of the year and the provision for the tabulation of the contrasting status of these goals at the close of the year have practically determined the sources from which all the necessary data will be secured. Nothing worth while will be added to the general results by securing more detailed data from various other sources, such as individual records of pupils, etc. Moreover, the securing of data from other sources would likely require too much time and energy to be of practical value in the whole undertaking.

Consideration of the supervisory activities. This is an especially important point in the case of the superintendent who is seeking to secure the maximum of opportunity for doing supervisory work. He cannot very well present an estimate of the quality of his supervisory performances, but he can give a very accurate account of the actual duties performed and the time spent in doing them. Such an account will in a considerable degree be an indication of the efficiency with which the work has been done. The account should be a graphic one and largely mathematical, since it is a quantitative measurement. The account should include the following items:

a. Number of teachers' meetings held for the purpose of discussing the course of study and the teaching of arithmetic, and the amount of time spent in such meetings. A very good plan would be to divide the teachers into two or three groups and

meet each for an hour every two weeks. This could be done by meeting the primary group (first-, second-, and third-grade teachers) on Wednesday, the intermediate grade teachers (fourth-, fifth-, and sixth-) on Thursday, and the upper-grade or junior high school teachers on Friday. If these meetings are held systematically throughout the year, the time spent would be fifty-four hours. Each group would constitute a committee on the course of study for their grades with the superintendent as chairman and leader. He would present to each group a tentative outline of materials covering the course for the following two weeks. The group would discuss the outline and suggest modifications. Agreement would be reached as to the exact body of materials to be used, and then the superintendent would lead the discussion on the teaching of the particular subject-matter of the course that had been decided upon for the following two weeks.

A second item that should go along with this one is that of a mathematical estimate of the number of hours spent in the preparing of these course of study outlines that are presented at these group meetings. A conservative estimate would be two to three hours spent in preparation of the material for each group meeting. This would mean one hundred eight to one hundred sixty-two hours of individual work on the part of the superintendent.

b. The number of hours spent in individual conferences with teachers to discuss the actual teaching observed by the superintendent. These conferences will likely be short and more or less spontaneous as the character of the work seems to demand. The superintendent need not necessarily keep an exact mathematical record of these conferences, but he should make a fairly accurate estimate at least each week of the amount of time so spent. These amounts could then easily be totaled for the year and recorded in hours. It

would be a good plan to give, in addition to the total time spent in individual conferences with teachers, the average amount of time each week per teacher spent in such conferences.

c. The number of hours spent in actual classroom visitations. This is a very important item and should be accurately and graphically recorded. The superintendent should keep a daily record of this time and should show the final record by weeks; the average number of hours per day; and the average number of hours per teacher each week. A grand total may also be given, but the significant picture for the school board will be the graphic representation of the time spent each week per teacher and the average time spent daily in such supervisory capacity. The actual record of how the superintendent has spent his time will be rather tangible and convincing evidence of his efficiency as a supervisor.

The above items practically cover the ground of supervising activities that are worth while recording and presenting as a measure of the efficiency of the work. They are only suggestive of a rational plan that might well be followed in realizing the goals set up. The superintendent who successfully carries out such an undertaking will undoubtedly convince his board that supervision is worth while and that he should be given more time and opportunity for such duties. He could follow up this piece of work with similar goals in regard to other subjects. Reading or language, for example, might be undertaken next and dealt with in much the same manner as has been suggested for arithmetic. A general improvement in the teaching of all subjects might be the undertaking. The training and development of beginning teachers might well be the chief task to be accomplished through supervision. The exact undertaking in each case should be determined by the particular

conditions and the most urgent needs of the schools. The main point is that the undertaking should be limited to a possible program. Then some such plan as has been suggested above will enable the administrator to present objective evidences of the results of his supervisory activities.

Measuring the supervisory work of the assistant superintendent, the supervising principal, and the building principal. The supervisory activities carried on by the assistant superintendent, the supervising principal, and the building principal are similar in character to those carried on by the superintendent under the conditions just described above. These school officials may be employed to give practically all their time to the supervision of instruction. As a rule, however, they are held responsible for certain administrative duties, hence they do not give quite all their time to supervision. The conditions under which they work are so similar to those under which the superintendent works, in such a system as has just been described, that the same sort of program will prove adequate and practical to meet their needs in measuring the efficiency of their supervisory performances. Just as the superintendent can account to his board for his supervisory endeavors, so can the assistant superintendent, the supervising principal, and the building principal account to the administrative officer or officers, as the case may be, under whose direction he is working, and to whom he is accountable for the success of his work. The important point in any case is that the supervisor shall be responsible for a sufficiently limited district or area to enable him to set up definite attainable goals. These goals may and should vary according to the needs of the schools. The program for measuring the efficiency with which the goals have been attained can be relatively simple, as the plan set forth above indicates. The superior administrative officer may, if he so desires, devise other means for checking

up the efficiency of the supervisory work carried on by the assistant superintendent, supervising principal, and building principal, but as a rule he is so occupied with important administrative duties that he cannot afford to take the time for devising and administering a detailed scheme for checking the work of supervision. Furthermore, the objective evidences presented by the plan suggested above are reliable enough and detailed enough to establish the worth and efficiency of the supervisory activities.

Measuring the supervisory activities of special supervisors. This type of supervision was one of the first to be introduced into the public schools and it is one of the commonest now in practice. Most school systems of any size have special supervisors of music, writing, drawing, etc., while the larger school systems have multiples of such special supervisors according to the number of times their school areas duplicate the smaller school system areas. That is to say, when the supervision of instruction is undertaken seriously in a large school system, it must be divided into districts similar in size to that of a smaller system in which the entire corps of teachers can be adequately supervised in a special line of work by a single supervisor. This being the case, a program of procedure that will prove adequate for measuring the efficiency of supervision in one system will prove just as satisfactory in any other system in which such special supervision is carried on. The following plan is relatively simple and yet sufficiently detailed and objective as thoroughly to establish the worth of the supervisory activities:

Definite goals set up for the special supervisor to attain. These goals will usually be the organization of a course of study in the special subject that will be adapted to the needs of the particular school system and to the development of the teaching of the subject. If the line of work is just being

introduced, there will be no previous course of study with which to compare the one worked out by the supervisor. In this event, the course may be compared with well-established courses in the same subject that are offered in other similar school systems. If this does not seem practicable, the course can be judged quite accurately on its own merits. If the course is to be judged on its own merits alone, it should consist of what has actually been done throughout the year, and should not be the theoretical course that may be proposed by the supervisor, but not actually accomplished.

The problem of developing the teaching of the special subject ordinarily resolves itself into two phases, especially when the line of work is new to the system. These two phases are: the training of the teachers in actual knowledge of the subject-matter of the subject, and the training of the teachers in method, devices, and technique of teaching the subject. The status of the teachers in knowledge of the subject and in teaching skill in the particular subject may not be on record; hence, in respect to these two items, the status of the teachers at the close of the school year will be the chief evidence upon which to judge the efficiency of the supervisor's work in securing good teaching.

Types of evidence that indicate the efficiency of the special supervisor's work. These have for the most part been set forth in determining the status of the goals that are to be attained. Another type of evidence, however, that should be considered is the scholastic attainments of the pupils to whom the special subject is taught. If there are scholastic records of the standing of the pupils for the year or two just preceding, these should be plotted showing the average monthly standing by grades. Then the monthly averages for the current year can be compared with these to show the relative efficiency of the work done under the special supervisor.

Teacher's judgment on course of study. Another type of evidence that should be considered in reference to the course of study is that of the judgment of the teachers as to the quantity and fitness of the material outlined by the supervisor and assigned to the teachers to be taught. This evidence can readily be secured by a simple questionnaire form that can be filled out easily and accurately by the teachers, and which can be easily checked up by the administrative officer. The following form might be used very effectively:

INFORMATION CONCERNING THE COURSE OF STUDY

In....., for the year.....
Teacher.....Grade.....Building.....

1. Was the amount of subject-matter assigned to be taught too great or too small for the length of the recitation periods?
2. If the amount was too great, how much extra time did it take or would it have taken to cover the ground?
3. If the amount was too small, how much more could have been done in the allotted time?
4. Was the subject-matter assigned to be taught too difficult or too easy for the pupils in your grade?
5. State the chief grounds or evidences upon which the answers to the above questions are based.

The chief reason for securing such data from the teachers is that special supervisors are often well trained in the knowledge of the subject, but have had little or no experience in teaching the subject to the various grades of pupils. The regular teachers very often know the limitations of the pupils much more accurately than does the supervisor, and with even a limited knowledge of the special subject, they may be better judges of the quantity of material that can well be covered and also better judges as to the relative difficulty of the material for their respective grades. At any rate, their judgments are worth checking against the course of study that is proposed and many times insisted

upon by the supervisor regardless of the protests of experienced teachers.

Sources from which valid evidence should be secured for measuring the efficiency of the special supervisor's work. The sources have already been indicated with the exception of those that will be given under the next item in the program, namely, the supervisor's record of the quantity of supervisory activities carried on, and the qualitative study made of these performances by the administrative officer. Summed up briefly, the sources from which objective evidence of supervisory efficiency may be secured are: teachers' records of scholastic attainments of pupils; administrative records of success grades or ranking marks of teachers; printed form of course of study actually taught; judgments of the teachers on course of study; supervisor's record of quantity of supervisory performances; and administrative records of the quality of the supervisory activities.

Consideration of the supervisory performances in themselves as a measure of their efficiency. The first consideration should be the mathematical measure of the actual time spent in carrying on the various activities. The chief items that should be included are as follows:

a. Number of hours spent in group conferences with teachers for the purpose of teaching the subject-matter of the course and for the purpose of instructing them in the method, devices, and technique of teaching the course to the pupils.

b. Number of hours per week spent in individual conferences with teachers, and the average amount of time per week given to each teacher in such conferences.

c. Number of hours per day spent in classroom visitations, and the average time per week spent with each teacher in such visitations.

d. Number of hours per week spent in preparation of subject-matter for the course of study.

The special supervisor can easily keep an accurate record

of these items and submit a graphic presentation of them to the administrative officer. They are certainly one type of objective evidence of the efficiency with which the special supervisory work is being carried on.

Quality of special supervisory activities. The second consideration is that of the quality of the special supervisory activities. The quantity of such activities may be sufficient to stand for a high degree of efficiency, provided the quality of the performances is of a high or even fair standard. The only way the administrative officer can determine this point with any assurance is by actually visiting the supervisor at work and by observing keenly the things that the supervisor does. No rule can be laid down as to how many times the administrator needs to see each kind of supervisory activity performed in order to satisfy his mind as to the degree to which the supervisor is using sound method, employing good devices, and practicing proper technique in the performance of the various supervisory duties. A regular blank containing these items or such items as the administrator desires to check will enable this study of the quality of supervision to be carried on systematically and economically. The main point is that the administrator should base his estimates on concrete data even though he does not attempt to record such data in any detail on the blank. The measurement cannot be objective unless it gets away from mere subjective impressions and personal reactions that may be unduly influenced by accidental conditions.

Measuring the efficiency of supervisory activities carried on by the supervisor in a training school. This type of situation calls for a much more detailed program of measurement in order to demonstrate objectively the worth-whileness of the detailed attack that the training-school supervisor should make upon the problem of training teachers. The following program is one that can be thoroughly prac-

ticed and is one that will contribute vitally to the development of the science of supervision. In other words, it is a program that provides for the measurement of a genuinely professional performance of the supervisory functions:

A. Goals or outcomes to be attained through supervision.

a. The development of teaching skill in applying the principles of method, employing good devices, and practicing appropriate technique in the teaching of a particular subject or subjects.

b. The maintenance of a high scholastic attainment on the part of the pupils taught by the teachers being trained.

c. Organization of a well-balanced course of study.

Other goals might be set up in addition to these, but these three call for a thoroughgoing program of measurement. This is especially true of the first goal if it is undertaken in any serious fashion. It is the focal point of the supervisory functions in the training-school situation, and it should be attacked in a thoroughly analytical and scientific manner.

B. Types of evidence of supervisory efficiency under the training-school conditions.

a. Lesson plans of teachers, which show the development of ability to apply the principles of method to the organization of subject-matter, the selection of good devices for its presentation, and the formulation of a program of technique that seems suitable to the particular situation.

b. Skill in actual teaching as shown by the last two or three weeks of the practice teaching of each student teacher.

c. Final grades given teachers on their practice teaching.

d. Judgments of teachers as shown by a questionnaire score card indicating the items in which they have been materially helped by supervision.

e. Scholastic records of pupils being taught by the student teachers under supervision.

f. Quantitative record of the supervisory activities carried on by the training-school supervisor. This should in-

clude all kinds of outlines issued to teachers and the course-of-study materials formulated by the supervisor.

g. Qualitative study of the supervisory performances as made through personal contact of the administrator with the supervisory situation. This type of evidence should be given in detail and each item should be based on concrete data. Especial attention should be given to the technique of the supervisor in visiting teachers at work, in making constructive criticisms, etc.

C. Sources from which the types of evidence should be secured. These have already been indicated in stating the types themselves. Briefly restated, however, they are student teachers, supervisor, school records of pupils' grades, records of teachers' practice teaching grades, and the administrator or director of the school. The matter of securing the objective data from all these sources should be carefully worked out so that the data will be compiled systematically and in sufficient quantity to afford a reliable basis for determining the degree of efficiency with which the supervisor has performed his respective duties. The use of such devices as are suggested below will facilitate the accumulation of the necessary data.

Devices for securing objective data. A detailed daily-lesson-plan form, such as has been presented in a previous discussion in this book, and a weekly-lesson-plan form similar to that heretofore described, will enable the director to secure very definite evidence as to the development of the teacher's professional knowledge and his skill in applying this knowledge to teaching problems. The teacher can readily furnish such lesson plans as are desired by the supervisor and director by using carbon sheets, so that no extra work need be involved in meeting this particular part of the administrative program.

The data on skill in actual teaching can be secured only through visiting the teachers at work a sufficient number of times to accumulate an adequate body of facts upon which to base a valid judgment. The director may secure such data economically by using a detailed blank which contains

the items suggested in the chapter on the measuring of teaching efficiency. If he so desires, he may use fewer items, or he may extend the number of points to suit his particular point of view and present purposes. The main point is that some definite form of observation notes should be taken and the estimate of the teachers' efficiency based upon them.

The final grades of the teachers and the standing of the pupils can be secured from the usual school records that are kept for this purpose. These may be charted for convenience in making comparisons from term to term, and practically all of this tabular work can be done by clerical help. The graphic representation of such data is so common that no special form need be suggested here. The simpler the form the better as long as it shows up the essential items.

The questionnaire for securing the judgments of teachers needs to be prepared with care and it should contain the main items of teacher training that are supposed to be contributed to through the work of the supervisor. A score-card form is very convenient and can be easily varied to include as many or as few items as the situation seems to warrant. The form should be different for elementary- and secondary-training schools on account of the difference in the number of subjects supervised by each supervisor. The accompanying form (see page 254) is suggestive of what might be used to advantage in an elementary-training school.

Use of the score card. The student teachers should be carefully instructed in the use of this score card. A score of from one to five should be entered in each square of the entire card, and the averages entered for each teacher-training item and for each subject. The director can accumulate these cards during the year and have the summation averages of all the data recorded graphically by subjects and by teacher-training items. The tabular work can be handled by clerical assistance so that the administrator needs only to

TEACHER'S RATING OF SUPERVISORY AID RENDERED BY SUPERVISOR.....IN MASTERING:

NOTE. — Enter a score of 1–5 in each square	Arithmetic	Reading	Writing	Spelling	Language	Grammar	Geography	History	Physiology	Music	Drawing	Play	Domestic arts	Nature study	Average
Purposes in teaching															
[1] Common knowledge															
Discipline															
Organization of material															
Method															
Devices															
Technique: Good habits formed															
Technique: Bad habits broken up															
Average															

Teacher.....

[1] See Chapters IV, VI.

study the final tabulations to determine the value of the evidence.

The score card that would be adapted to rating the supervisors in a secondary-training institution would be much simpler in form. It might well contain the same teacher-training items as are given in the above form, but these would refer to only one or possibly two subjects, since each student teacher usually teaches only one subject in his practice period.

The administrator should be careful in evaluating these scores so as not to give them too great weight in judging the efficiency of the work of a supervisor. This source of evidence, however, should receive a fair amount of considera-

tion. The person who takes the treatment is in a position to pass judgment on the results from an angle to which no other person has access. The practice of going to the recipients of education courses to get testimony as to their practical value is becoming more and more common to-day in the educational world. The results of such an inquiry at least serves as a balancing check against the evidences presented from other sources on the efficiency of the supervisory performances.

Supplementing the questionnaire. Another type of evidence that the teacher can furnish in the program for measuring the worth of supervision is that of giving a descriptive account of ways in which the supervisor has contributed to his training. The teacher, knowing his difficulties in at least a general way, and realizing when and how he has been actually helped, can very readily render an accurate descriptive account of the help given. The teacher must be consistent in recording such descriptive data in order to be of real service in measuring the efficiency of the supervisory activities.

Examples of supervisory helpfulness. The teacher may be handicapped in his work on account of lack of certain lines of general training, which he might readily overcome by individual study under wise direction. If the supervisor discovers this source of the teacher's difficulty, points out the remedy, and directs the teacher in removing the defect, the teacher knows quite definitely and in what degree the supervisor has rendered valuable service to him. A brief, concise statement of the amount of time spent by the supervisor, and the kinds of suggestions, discussions, and helpful acts performed in rendering the service, should be set down in the proper place in the record. Every time this sort of assistance is given the teacher an accurate record should be made.

Another general handicap that the teacher very fre-

quently works under is that of having a very vague conception of the aims of education and the specific purposes for which the various subjects are taught. This defect usually involves a lack of knowledge of the psychological and physiological natures of the pupils in the particular type of school in which the teacher is working. This handicap may be largely overcome in many cases through the work of the supervisor. He may put literature into the teacher's hands, and through discussions and suggestions greatly aid the teacher in interpreting the points of view and principles thus presented. The result will be a greatly changed teacher, and the teacher can be fully aware of the advantage that has come to him through this change. Therefore he should keep a faithful record of the important acts performed by the supervisor in this connection.

The problems of general management of the classroom and the problems of discipline are some of the hardest difficulties for a teacher, as a rule, to overcome. These problems are very definite and concrete. They arise in such a way that the teacher realizes quite fully his lack of ability to cope with the situation. Therefore he realizes just what advice and suggestions from the supervisor have enabled him to deal with his problems more successfully than he could possibly have done on his own responsibility. The concrete cases should be recorded in complete enough form to show the essential ways in which the direction of the supervisor was highly valuable. The essential help may have been the clarifying of the teacher's understanding of the principles underlying the particular piece of pupil conduct. It may have been the suggesting of a device or some point of technique in dealing with the case. Whatever it may have been, the essential point or points can always be set down in definite form.

Starting the teacher along right lines. The one aspect

of the teacher's work in which he meets many difficulties and in which he looks most of all to the supervisor for material assistance is that of teaching subject-matter in particular subjects. The teacher may not always realize that the point of difficulty is one primarily of method, device, or technique, but he should realize quite fully the difference that the work of the supervisor has made in his ability to meet the teaching problems successfully. If the supervisor is successful in rendering constructive service, the teacher will know that it was a clearing-up of a point in method, or the selection of better devices, or the forming of correct technique that enabled him to improve in his teaching. The teacher may have some very bad forms of technique that need to be broken up and replaced by good technique. He may fully realize that this is the case, and yet be unable to accomplish the task alone. When this is true he knows thoroughly just what the supervisor contributes to his success in mastering the situation. All of these points come out in connection with concrete teaching situations. Therefore the teacher can set down accurate data, in brief form, that show the value of the supervisor's work.

The teacher often lacks initiative and independence. He needs to have opportunities thrust upon him for acquiring this much-desired power. If the supervisor succeeds in giving the teacher such opportunities, and by wise direction enables him to develop initiative, the teacher knows just what has taken place so far as the essential features of each case are concerned. The specific situations should be recorded with enough details to objectify the service that the supervisor has rendered to the teacher in each case.

Value of objective records. The teacher not only knows when he has received material help in respect to the various points that have been set forth above, but he also knows when he has been hindered rather than helped. Therefore,

in connection with each of these different types of difficulties, he should make an accurate descriptive record of the negative effect of the supervisor's work whenever there is just cause for so doing. The teacher may not understand just what the reason is for the negative effect, but if he sets down a reliable account of the supervisor's performance and the apparent results and submits these data to the administrator, that officer may be able to analyze the situation thoroughly enough to locate the defect. The trouble may be a failure to apply some principle of method in supervision, a poor selection of devices, or a matter of faulty technique. The difficulty may be just a matter of personality or an unfortunate temporary attitude and bearing on the part of the supervisor. Whatever the defect may be, the teacher will have discharged his responsibility when he has made an accurate, honest record of what actually took place and has placed the data at the disposal of the administrator.

The keeping of such a record as has been suggested in this discussion may seem to be too detailed and laborious to be practical. The actual amount of time and labor involved in doing the work is not great, provided a good form is used to systematize the data and reduce the amount of writing to the minimum, and provided the teacher forms the habit of checking up on the items periodically and making whatever records are essential to the success of the scheme. One thing is certain, and that is that the only way to make reliable scientific measurements of the supervisor's efficiency is to accumulate worth-while objective data of the sorts that have been set forth, and the only way to secure such an accumulation of facts is to invent good devices and practice proper technique. No measurement should be attempted at all if it has to be based on mere subjective impressions and superficial evidence. There would be nothing wrong, to be sure, in asking a teacher for his impression of the value of

the supervisor's work, but such an impression should not be taken as a substitute for objective evidence. If this is the only kind of data at hand upon which to make an estimate of the supervisor's work, then let this fact be stated frankly and let no pretense be made of giving the supervisor a definite rating upon such a basis.

Consideration of the supervisory performances in themselves as a measure of the efficiency of supervision. The supervisor should be ready and willing to supply data on his own activities that can be used in checking up the other data secured by the administrator. Moreover, he should be interested in accumulating as much objective data as possible on his performances, in order that he may study them accurately and in perspective. The supervisor who can review his own actual doings in concrete form at the end of a year, half-year, or any period whatever, is in a much better position to discover his defects and his strong points than he can possibly be if he depends upon memory and general impressions. The actual amount of time and labor that would be consumed in the accumulation of essential data will not be great when the supervisor has once formed the habit of doing it systematically. The work of recording some of the forms of data, as will be shown, can be largely done by stenographic and clerical help. And, finally, the supervisor ought, more than any other person connected with his work, to be interested in having his efficiency measured by an abundance of objective data rather than by brief inspection and subjective impressions.

One of the important forms of data that the supervisor should furnish the administrator is that of typewritten or mimeographed copies of all the kinds of materials that he puts into the hands of the teachers for their guidance and direction. These materials should include outlines of subject-matter, suggestive forms for lesson plans, outlines on

method, devices, and technique especially adapted to particular subjects, suggestions on testing and examining pupils in particular subjects, general instructions on management and discipline, instructions and suggestions on supervised study, forms to be used by teachers in taking observation notes, and general instructions to teachers on handling make-up work. There may be other printed materials that the supervisor has worked out for special purposes and placed in the hands of the teachers. Whatever they may be, copies of them should be furnished to the administrator.

Plans for supervisory work. A second very vital form of data that the supervisor should submit to the administrator is that of definite plans of supervision. These plans should show how frequently the supervisor expects to visit the work of each teacher, when these visits are to occur, and how much time will be spent on each visit. This should, of course, be flexible, but a definite program of distribution of time will be helpful to the supervisor and be valuable to the administrator. The supervisor should plan definite problems in method, device, technique, etc., as the case may be, upon which he expects to be working in the direction of each teacher's work day after day and week after week. These plans can very well be made for a week at a time without unduly burdening the supervisor, and without reducing them to a mere formal task. These plans should be flexible, but the supervisor will do much more effective work with each teacher if he has definite points in mind upon which to work daily until something definite has been accomplished. The working-out of good forms to be used in making these various plans will save much time and energy and will be an indication of the supervisor's efficiency.

Notes on visitation. A third type of data is that of definite notes, taken during visits to the teacher at work, and written suggestions given to teachers concerning the specific

problems upon which the supervisor is working at any particular time. A good form may be used in taking detailed notes that will reduce the labor involved to a minimum. Carbon sheets can be used, and thus readily supply as many extra copies from one writing as may be desired. These notes will not only show just what the supervisor is undertaking to do, but they will enable both administrator and supervisor to discover the most common defects of teachers in particular subjects. They will also show quite definitely the range of differences in the time taken by individual teachers to overcome this or that particular defect, or to make some specific adjustment to a problem.

Reports of conferences. A final form of data should be that of definite statements and information concerning the conducting of conferences with teachers. This should include the time spent in individual and group conferences, and should give in brief, concise form the essential points concerning the matters discussed, with a statement as to the apparent results. A well-worked-out blank form for this purpose will reduce greatly the time and energy consumed in keeping an accurate record. The accumulation of such data will be as helpful or even more so to the supervisor than it will be to the administrator. It will enable him to study his own performances in conducting such conferences, and be the means of improving method, devices, and technique of doing such work. The more the supervisor, as well as the administrator, gets away from mere memory and subjective impressions, the more effective he will become. The attempt to secure objective data will mean definiteness in everything connected with his work, and definiteness all round will go far toward eliminating waste and bringing consistent improvement in the supervisory performances.

Qualitative study of supervisory performances. The second phase of considering the supervisory performances in

themselves as a measure of their efficiency is that of determining the quality of these actual performances. This study cannot be made on any other basis than that of actual personal contact with the supervisor's work. The administrator must see the supervisor in the schoolroom, directing the teacher, in conferences with teachers, teaching demonstration lessons, conducting observation groups, testing the work of the pupils, and measuring the work of the teachers in order to have any adequate conception of the supervisor's skill. Moreover, these visits to the supervisor's work must be more than inspectorial glimpses. They must be frequent enough and extended enough to enable the administrator to analyze thoroughly the extent to which the supervisor has mastered the principles of method in supervision, has exercised good judgment in selecting and adapting devices, and has acquired effective technique in performing all phases of the supervising activities. If the administrator does not have the time or opportunity to make any such thoroughgoing study as has been suggested, then he is not in a position to pass judgment upon the worth of the supervision from the standpoint of what the supervisor has actually done in the way of performance. If this is the case, the justness with which the work of the supervisor is measured will depend upon how carefully the results as set forth above have been checked up.

Need for definite plans and systematic work. The administrator who undertakes in a serious way to make a thorough study of the work of his supervisors should have a definite plan in mind and carry it out systematically. He must take accurate notes on his observations when visiting the work, and he must discriminate sharply between principles of method, devices, and technique of supervision. He should not rely too much upon the mere appearance of things, but should have conferences with the supervisors be-

fore and after his visits in order to get into their thinking on points of method, devices, and technique. He will in this way learn whether or not the success of the supervisors at any time was accidental, and whether seeming failure was merely a temporary matter that will in all probability come out right later. He should study the plans that his supervisors make for their own guidance, and note the extent to which these plans are realized in their work. Moreover, he should not only note deficiencies, but should account for them in terms of failure to apply the principles of method, lack of good judgment in selecting and adapting devices, or deficiency in skill of technique.

The work of the administrator in observing supervisory activities will be greatly facilitated by the use of a regular blank which includes all the essential items that should be studied through such observations. Concrete data should be accumulated under each item and a final rating of efficiency in each item made from these objective data. The general headings on such a form should be: Method, Devices, and Technique. There should be a space for miscellaneous notes and comments. The exact form that may be used is immaterial. The important point is that when one systematically accumulates data of this sort, he becomes much more definite and certain in his procedure. This very habit of getting down to definite, detailed data will insure a high degree of accuracy in estimating the real worth of supervision.

Chapter summary. The work of supervision must justify its existence by establishing adequate objective evidences of its efficiency. These objective evidences may be secured through first setting up a body of guiding principles, and then, by formulating a program that will enable the administrator or supervisor, as the case may be, to apply the principles to the measurement of any particular type of super-

visory situation. The ultimate interpretation of principles and the formulation of the measurement program must rest with the individual administrator. Suggestive programs, however, based upon definite supervisory situations may be helpful; hence they are worth studying.

CLASS EXERCISES

1. Make a list of goals or outcomes that would be suitable for a superintendent, in a city of 5000, to undertake to realize through his own supervisory activities.
2. Describe the status of a particular course of study, in either an elementary- or secondary-school subject, that needs revision.
3. Select some subject that is usually introduced into the schools under a special supervisor and make a list of appropriate goals that may be attained by efficient supervision.
4. Select two appropriate goals to be realized through the supervisory activities of a supervising principal, and designate the types of objective data that would well establish the efficiency of the supervision.
5. Give a brief descriptive account of three or more ways in which you have been helped by a supervisor.
6. Give a brief descriptive account of two or more instances in which you have been handicapped by poor or insufficient supervision.
7. Give three examples of cases in which special supervisors have demanded too much of the teachers under their supervision.
8. Make a blank form that the administrator could use to advantage in securing reliable data on his observations of the actual performances of supervision.
9. Make a graphic record of the quantity of supervisory duties performed by a particular supervisor whose work you have known.

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